

```

angular.module('starter.services', [])

.factory('Waratha', function (Masail,$log) {

var result = {
  asl : 1,
  aol: 0,
  cppcm:1,
  tasmia:angular.noop()
}
//var asl = 1;
//var aol = 0;
//var cppcm = 1;// لتصحيح المسألة

function nasibFroud(n1, n2) {
  if (!angular.isDefined(n1) && !angular.isDefined(n2)) {

  }
}

function getWareth(warath) {
  if (!isNaN(warath)) {
    return warath[warath];
  }
  else {
    for (i in warath) {
      if (warath[i].mlbl == warath) {
        return warath[i];
      }
    }
    throw 'no wareth with lbl = ' + warath
  }
}

var minNasib = function (_this_) {
  var _this_ = (angular.isDefined(_this_) ? _this_ : this)
  var n = (angular.isDefined(_this_.withMul) && _this_.number >
1 ? _this_.wa7dahMul : _this_.wa7dah);

  for (j in warath) {
    if (warath[j].selected && _this_.index != warath[j].index)
{
      var tmp = (angular.isDefined(_this_.withMul) &&
_this_.number > 1 ? _this_.withMul.charAt(j) : _this_.with.charAt(j));
      n = (tmp < n ? tmp : n)
    }
  }
  _this_.nasib = n
  //console.log(n);
  return n;
};

//القاسم المشترك الأكبر
function gcd(a, b) {
  return b === 0 ? a : gcd(b, a % b);
}

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//المضاغف المسترك الأصغر
function lcm(a, b) {
    return Math.abs(a * b) / gcd(a, b);
}

var waratha = [
    {
        index: 0,
        mlbl: "ibn",
        lbl: 'إبن',
        wa7dah: 'l',
        gender: '1',
        selected: false,
        number: 0,
        with: 'l1lcccccccl1l1l1l1l1l1l1l1l1',
        nasibf: minNasib,
        scope:99
    },
    {
        index: 1,
        mlbl: "bint",
        lbl: 'بنت',
        wa7dah: 'j',
        wa7dahMul: 'k',
        gender: '0',
        selected: false,
        number: 0,
        with: 'bjjjjjjjjjjjjjjjjjjjjjjjjjjjjj',
        withMul: 'bkkkkkkkkkkkkkkkkkkkkkkkkkkk',
        nasibf: minNasib,
        scope:99
    },
    {
        index: 2,
        mlbl: "ibn ibn",
        lbl: 'إبن إبن',
        wa7dah: 'l',
        gender: '1',
        selected: false,
        number: 0,
        with: "aclbcccccccl1l1l1l1l1l1l1l1l1",
        nasibf: minNasib,
        scope:99
    },
    {
        index: 3,
        mlbl: "bint ibn",
        lbl: 'بنت إبن',
        wa7dah: 'j',
        wa7dahMul: 'k',
        gender: '0',
        selected: false,
        number: 0,
        with: "afbjjjjjjjjjjjjjjjjjjjjjjjjjjjj",
        withMul: "afbkkkkkkkkkkkkkkkkkkkkkk",
        scope:99,
    }
]

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nasibf: function () {

    if (getWareth('bint').selected && getWareth('bint').number
> 1 && !getWareth('ibn ibn').selected) {

        this.nasib = 'd'
        return 'd'

    } else {
        return minNasib(this);
    }
}
},
{
    index: 4,
    mlbl: "zouj",
    lbl: 'زوج',
    wa7dah: 'j',
    selected: false,
    number: 0,
    with: "hhhhjxjjjjjjjjjjjjjjjjjjjjjjjj",
    scope:1,
    nasibf: function(){

        waratha[5].number = 0
        waratha[5].selected = false
        waratha[5].desable = true;//تعطيل خيار الزوجة
        return minNasib(this);
    }
},
{
    index: 5,
    mlbl: "zouja",
    lbl: 'زوجة',
    wa7dah: 'h',
    selected: false,
    number: 0,
    with: "eeeexhhhhhhhhhhhhhhhhhhhhhh",
    scope:4,
    nasibf: function(){
        waratha[4].number = 0
        waratha[4].selected = false
        waratha[4].desable = true;//تعطيل خيار الزوج
        return minNasib(this)
    }
},
{
    index: 6,
    mlbl: "abb",
    lbl: 'أب',
    wa7dah: 'l',
    gender: '1',
    selected: false,
    number: 0,
    with: "fcfccclcllclllllllllllllll",
    scope:1,
    nasibf: function () {

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        if (Masail.getMasala('1 العمرية').validate(waratha)
            || Masail.getMasala('2 العمرية').validate(waratha)) { //
إذا كانت مسألة عمرية
            this.nasib = 'm'
            return 'm'; // ثلثي الباقي
        } else if (getWareth('ibn').selected
            || getWareth('ibn ibn').selected) { // تجنب حصول الأب على
الباقي مع الابن او ابن ابن
            this.nasib = 'f'
            return 'f'
        } else {
            return minNasib(this)
        }
    }
},
{
    index: 7,
    mlbl: "omm",
    lbl: 'أم',
    wa7dah: 'i',
    selected: false,
    number: 0,
    with: "ffffiiiiiiiiiiiiiiiiiiiiiiii",
    scope: 1,
    nasibf: function () {

        if (Masail.getMasala('1 العمرية').validate(waratha)
            || Masail.getMasala('2 العمرية').validate(waratha)) { //
إذا كانت مسألة عمرية
            this.nasib = 'n'
            return 'n'; // الثلث اباقي
        }
        // تأخذ الأم السدس اذا كان عدد الاخوة (اثنان فأكثر)
        // ذكورا كانوا أو إناثا أو مختلفين من أي جهة كانوا (اشقاء او)
(لأب أو أم)
        // لقوله تعالى (فان كان له اخوة فلأمه السدس)
        else if (getWareth('akh chak').number
            + getWareth('okht chak').number
            + getWareth('akh abb').number
            + getWareth('okht abb').number
            + getWareth('akh or okhet omm').number > 1) {

            this.nasib = 'f';
            return 'f' // السدس
        }
        else {
            return minNasib(this)
        }
    }
},
{
    index: 8,
    mlbl: "jad",
    lbl: 'جد',
    wa7dah: 'l',
    gender: '1',
    selected: false,

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    number: 0,
    with: "fcfcccaclccbbbbbllllllllll",
    scope:1,
    nasibf: function () {
        return minNasib(this)
    }
},
{
    index: 9,
    mlbl: "jada abb",
    lbl: 'جدة لأب',
    wa7dah: 'f',
    selected: false,
    number: 0,
    with: "ffffffaaffpfffffffffffffff",
    scope:1,
    nasibf: function () {
        if (getWareth('jada omm').selected
            && !getWareth('abb').selected
            && !getWareth('omm').selected) {
            this.nasib = 's'
            return 's'
        }
        return minNasib(this)
    }
},
{
    index: 10,
    mlbl: "jada omm",
    lbl: 'جدة لأم',
    wa7dah: 'f',
    selected: false,
    number: 0,
    with: "fffffffafpfffffffffffffff",
    scope:1,
    nasibf: function () {
        if (getWareth('jada abb').selected
            && !getWareth('abb').selected
            && !getWareth('omm').selected) {
            this.nasib = 't'
            return 't'
        }
        return minNasib(this)
    }
},
{
    index: 11,
    mlbl: "akh chak",
    lbl: 'أخ شقيق',
    wa7dah: 'l',
    gender: '1',
    selected: false,
    number: 0,
    with: "acaccacccclbllclllllllll",
    nasibf: minNasib,
    scope:99
},

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{
  index: 12,
  mlbl: "okht chak",
  lbl: 'أخت شقيقة',
  wa7dah: 'j',
  wa7dahMul: 'k',
  gender: '0',
  selected: false,
  number: 0,
  with: "acacjjajjjjjbjjjjjjjjjjjjj",
  withMul: "acackkakkkkbkkkkkkkkkkk",
  nasibf: minNasib,
  scope:99
},
{
  index: 13,
  mlbl: "akh abb",
  lbl: 'أخ لأب',
  wa7dah: 'l',
  gender: '1',
  selected: false,
  number: 0,
  with: "acacccaccccaclbclllllllll",
  nasibf: minNasib,
  scope:99
},
{
  index: 14,
  mlbl: "okht abb",
  lbl: 'أخت لأب',
  wa7dah: 'j',
  wa7dahMul: 'k',
  gender: '0',
  selected: false,
  number: 0,
  with: "acacjjajjjjafbjjjjjjjjjj",
  withMul: "acackkakkkkkafbkkkkkkkkkk",
  scope:99,
  nasibf: function () {
    if (getWareth('okht chak').number > 1
      && !getWareth('akh abb').selected
      && !getWareth('abb').selected
      && !getWareth('akh chak').selected
      && !getWareth('ibn').selected
      && !getWareth('ibn ibn').selected) {
      this.nasib = 'd'
      return 'd'
    }
    return minNasib(this)
  }
},
{
  index: 15,
  mlbl: "akh or okhet omm",
  lbl: 'أخت لأم / أخ',
  wa7dah: 'f',

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wa7dahMul: 'i',
gender: '1',
selected: false,
number: 0,
with: "aaaaffafaffffffffffffffffff",
withMul: "aaaaiiaiaiiiiiiiiiiiiiii",
nasibf: minNasib,
scope:99
},
{
  index: 16,
  mlbl: "ibn akh chak",
  lbl: 'إبن أخ شقيق',
  wa7dah: '1',
  gender: '1',
  selected: false,
  number: 0,
  with: "acaccacaccacacclllllllll",
  nasibf: minNasib,
  scope:99
},
{
  index: 17,
  mlbl: "ibn akh abb",
  lbl: 'إبن أخ لأب',
  wa7dah: '1',
  gender: '1',
  selected: false,
  number: 0,
  with: "acaccacaccacacalllllllll",
  nasibf: minNasib,
  scope:99
},
{
  index: 18,
  mlbl: "amm chak",
  lbl: 'عم شقيق',
  wa7dah: '1',
  gender: '1',
  selected: false,
  number: 0,
  with: "acaccacaccacaccaalllllll",
  nasibf: minNasib,
  scope:99
},
{
  index: 19,
  mlbl: "amm abb",
  lbl: 'عم لأب',
  wa7dah: '1',
  gender: '1',
  selected: false,
  number: 0,
  with: "acaccacaccacaccaaallllll",
  nasibf: minNasib,
  scope:99
},
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{
  index: 20,
  mlbl: "ibn amm chak",
  lbl: 'إبن عم شقيق',
  wa7dah: '1',
  gender: '1',
  selected: false,
  number: 0,
  with: "acacccacaccacaccaaallll",
  nasibf: minNasib,
  scope:99
},
{
  index: 21,
  mlbl: "ibn amm abb",
  lbl: 'إبن عم لأب',
  wa7dah: '1',
  gender: '1',
  selected: false,
  number: 0,
  with: "acacccacaccacaccaaallll",
  nasibf: minNasib,
  scope:99
}
]

function clacRad(w,xtot){

  var some = Number(w[1].sahem)
    + Number(w[3].sahem)+ Number(w[4].sahem)+
Number(w[5].sahem)
    + Number(w[7].sahem)+ Number(w[9].sahem)+
Number(w[10].sahem)
    + Number(w[12].sahem)+ Number(w[13].sahem)+
Number(w[14].sahem)
    + Number(w[15].sahem)+ Number(w[16].sahem);

  var sihamAshabFouroud =
[Number(w[1].sahem),Number(w[3].sahem),Number(w[4].sahem),Number(w[5].
sahem),Number(w[7].sahem),Number(w[9].sahem),Number(w[10].sahem),
Number(w[12].sahem),Number(w[13].sahem),Number(w[14].sahem),Number(w[1
5].sahem),Number(w[16].sahem)];
  // حساب الرّد
  if(some < result.cppcm // بقاء فائض من التركة
    ولا يوجد من يرث بالتعصيب)
    &&!w[0].selected
    &&!w[2].selected
    &&!w[6].selected
    &&!w[8].selected
    &&!w[11].selected
    &&!w[16].selected
    &&!w[17].selected
    &&!w[18].selected
    &&!w[19].selected
    &&!w[20].selected
    &&!w[21].selected){

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    if(!w[4].selected && !w[5].selected){ // من دون وجود الزَّوجين
        $log.debug('ردّ دون وجود احد الزوجين')
        $log.debug('الرد الى '
            + some)

        var sahem = -1; // IF sahem = -2 THEN أصحاب فروض متعددة
ELSE أصحاب فرض واحد
        for(var i = 0; i < sihamAshabFouroud.length; i++){
            if(sahem != -1){
                if(sihamAshabFouroud[i] != sahem &&
sihamAshabFouroud[i] != 0){
                    sahem = -2;
                    break;
                }
            }
            if(sihamAshabFouroud[i] != 0){
                sahem = sihamAshabFouroud[i];
            }
        }

        if(sahem == -2){
            $log.debug('أصحاب فروض متعددة');
        }else{
            $log.debug('أصحاب فرض واحد');
        }
    }else{ // وجود الزوجين
        $log.debug('ردّ في وجود احد الزوجين')
    }

}
}
return {

    all: function () {
        return waratha
    },
    setWareth: function (wareth, num) {
        this.getWareth(wareth).number = num;
        this.getWareth(wareth).selected = true;
    },
    getWareth: getWareth,
    calc2: function () {
        $log.debug("calc");
        waratha[8].lblnasib = null
        waratha[4].desable = false;
        waratha[5].desable = false;
        var jad = false;
        var empty = 0;
        result.tasmia = angular.noop();

        // متغير منطقي : هل المسألة فيها رد أم لا
        result.isRad = false;

        for (var i in waratha) {
            if (waratha[i].number == 0 || !waratha[i].selected){
                waratha[i].selected = false
            }
        }
    }
}

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        waratha[i].number = 0
        waratha[i].sahem = 0

        empty++
    }

    if(empty === 22)
        return;

    if (waratha[i].selected) {
        waratha[i].nasibf()
    }

    // ارفاق كل نصيب بمقامه
    switch (waratha[i].nasib) {
        case 'e':waratha[i].makam = 8;break;//الثمان
        case 'f':waratha[i].makam = 6;break;//السدس
        case 'h':waratha[i].makam = 4;break;//الربع
        case 'i':waratha[i].makam = 3;break;//الثلاث
        case 'j':waratha[i].makam = 2;break;//النصف
        case 'k':waratha[i].makam = 3;break;//الثلاثان
        case 's':waratha[i].makam = 12;break;//السدس مع ام الأم
        case 't':waratha[i].makam = 12;break;//السدس مع ام الأب
        default :waratha[i].makam = 1;break;// ليس من أصحاب
    }
}

// الحالات الخاصة الجد مع الأخوة
if (waratha[8].selected && !waratha[6].selected) { //لا يوجد أب
    var frere = (waratha[11].number + waratha[13].number)
    *2+waratha[12].number + waratha[14].number
    if(waratha[0].selected || waratha[2].selected){ //الجد يأخذ
        السدس في وجود الابن او ابن ابن
        waratha[8].nasib = 'f'
        waratha[8].makam = 6
    }
    else //حالا الجد في غياب الابن وابن ابن
    if(waratha[11].selected || waratha[12].selected ||
waratha[13].selected || waratha[14].selected){
        var jam = 0
        for(var i in waratha)
            if(waratha[i].selected && waratha[i].makam != 1 && i
!= 12 && i != 14) jam += 1 / waratha[i].makam

        //console.log("jam", jam);
        switch (jam){
            case 0://غياب أصحاب الفروض
                if(frere == 4){
                    waratha[8].lblnasib = 'الثلاث أو المقاسمة'
                    waratha[8].nasib = 'i'
                    waratha[8].makam = 3
                }else
                if(frere > 4){
                    waratha[8].nasib = 'i'
                    waratha[8].makam = 3
                }
            }
        }
    }
}

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    }
    if (!waratha[11].selected && waratha[12].number >1
&& waratha[12].nasib == 'b') {
        waratha[12].nasib = 'k'
        waratha[8].makam = 3
        if(waratha[13].selected){ waratha[13].sahem =
0;waratha[13].nasib = 'd'}
        if(waratha[14].selected){ waratha[14].sahem =
0;waratha[14].nasib = 'd'}
    }
    break;
    case 1/4:case 1/6:case 1/4+1/6:
        if(frere == 4){waratha[8].lblnasib = 'ثلث الباقي أو
المقسامة'; waratha[8].nasib = 'n';
        waratha[8].makam = 1; jad = true
        }
        if(frere > 4){waratha[8].nasib = 'n';
waratha[8].makam = 1;jad = true;}
        break;
    case 1/2:
        if(frere == 4){waratha[8].lblnasib = 'السدس أو
المقسامة';waratha[8].nasib = 'f';waratha[8].makam = 6}
        if(frere > 4){waratha[8].nasib =
'f';waratha[8].makam = 6}
        break;
    case 1/2+1/6:case 1/2+1/8:case 2/3:
        if(frere > 2){waratha[8].nasib =
'f';waratha[8].makam = 6}
        break;
    case 1/2+1/4:
        if(frere > 1){waratha[8].nasib =
'f';waratha[8].makam = 6}
        break;
    case 1/3 +1/4:
        if(frere == 2){waratha[8].lblnasib = 'السدس
المقسامة'; waratha[8].nasib = 'f';waratha[8].makam = 6}
        if(frere > 2){waratha [8].nasib =
'f';waratha[8].makam = 6}
        break;
    default :
        if(jam > 1/3+1/4){waratha[8].nasib =
'f';waratha[8].makam = 6}
    }
    if(waratha[8].nasib == 'b') jad = true
}

}

if(jad && (waratha[11].selected || waratha[12].selected ||
waratha[13].selected || waratha[14].selected)){
    if (waratha[8].nasib == 'b') {
        if(waratha[11].selected){waratha[11].nasib =
'b';waratha[11].makam = 1}
        if(waratha[12].selected){waratha[12].nasib =
'b';waratha[12].makam = 1}
        if(waratha[13].selected && !waratha[11].selected)
{waratha[13].nasib = 'b';waratha[13].makam = 1}

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        if(waratha[14].selected && !waratha[11].selected)
{waratha[14].nasib = 'b';waratha[14].makam = 1}
    }
}

//console.log("الجد", waratha[8].nasib);
//console.log("الأخت الشقيقة", waratha[12].nasib);
//تأصيل
var lcmValue = 1;
for (var i in waratha) {
    if(waratha[i].selected)
        lcmValue = lcm(waratha[i].makam, lcmValue)
}
//console.log('result.asl',lcmValue);
result.asl = lcmValue;
result.cppcm = result.asl;

var xtot = 0 //مجموع أسهم أصحاب الفروض
for (var i in waratha) { //جمع أسهم أصحاب الفروض
    if (waratha[i].selected /*&& !(jad && i == 12)*/) {

        if (waratha[i].makam != 1) { // إذا كان صاحب فرض
            if (waratha[i].nasib == 'k') //الثلثان
                waratha[i].sahem = result.cppcm * 2 / 3
            else
                waratha[i].sahem = result.cppcm / waratha[i].makam

        } else { //عاصب
            waratha[i].sahem = 0
        }

        if (waratha[i] == 'l') //كل المال
            waratha[i].sahem = 1

        xtot += waratha[i].sahem

    }
}

//console.log('result.cppcm ',result.cppcm)
//console.log('xtot',xtot);
//اعطاء الأب او الجد السدس اذا نقص الباقي عن السدس
if (getWareth('abb').selected && getWareth('abb').nasib ==
'c' && result.cppcm - xtot <= result.cppcm / 6) {
    $log.debug('السدس للأب');
    getWareth('abb').nasib = 'f' //السدس
    getWareth('abb').makam = 6;
    getWareth('abb').sahem = result.cppcm / 6
    xtot += result.cppcm / 6
}

if(getWareth('jad').selected && getWareth('jad').nasib ==
'c' && result.cppcm - xtot <= result.cppcm / 6){
    getWareth('jad').nasib = 'f' //السدس
    getWareth('jad').makam = 6;
    getWareth('jad').sahem = result.cppcm / 6
    xtot += result.cppcm / 6
}

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}

//تجنب الباقي مرتين
if(!jad
    && (getWareth('okht chak').selected && getWareth('okht
chak').nasib == 'c')
    || (getWareth('okht abb').selected && getWareth('okht
abb').nasib == 'c')
    && (waratha[13].selected //اخ لأب
    || waratha[14].selected //أخت لأب
    || waratha[16].selected //ابن أخ لأب
    || waratha[17].selected //
    || waratha[18].selected // عم شقيق
    || waratha[19].selected // عم لاب
    || waratha[20].selected //ابن عم شقيق
    || waratha[21].selected)//ابن عم لأب
    {
        if(waratha[13].selected && (waratha[13].nasib == 'c' ||
waratha[13].nasib == 'b')){ waratha[13].nasib = 'd';waratha[13].sahem
= 0}

        if(waratha[14].selected && (waratha[14].nasib == 'c' ||
waratha[14].nasib == 'b') && waratha[12].selected){ waratha[14].nasib
= 'd';waratha[14].sahem = 0}

        if(waratha[16].selected && waratha[16].nasib == 'c')
{waratha[16].nasib = 'd'; waratha[16].sahem = 0}
        if(waratha[17].selected && waratha[16].nasib == 'c')
{waratha[17].nasib = 'd'; waratha[17].sahem = 0}
        if(waratha[18].selected && waratha[16].nasib == 'c')
{waratha[18].nasib = 'd'; waratha[18].sahem = 0}
        if(waratha[19].selected && waratha[16].nasib == 'c')
{waratha[19].nasib = 'd'; waratha[19].sahem = 0}
        if(waratha[20].selected && waratha[16].nasib == 'c')
{waratha[20].nasib = 'd'; waratha[20].sahem = 0}
        if(waratha[21].selected && waratha[16].nasib == 'c')
{waratha[21].nasib = 'd'; waratha[21].sahem = 0}
    }

//حساب العول
if( xtot > result.cppcm){ //المسألة عول
    result.cppcm = xtot
    result.aol = xtot;
}else{//ليس في المسألة عول
    result.aol = 0
}

//في حالة لم يبق سهم
if(xtot >= result.cppcm){
    for(var i in waratha){
        if(waratha[i].selected)
            if(waratha[i].nasib == 'b'){
                waratha[i].nasib = 'd';
                waratha[i].sahem = 0
            }
    }
}
}

```

```

var baki = result.cppcm - xtot;
var grand = 1;
var petit = 1;

for(i in waratha){
  if(waratha[i].selected){
    if(waratha[i].makam != 1){// يرث بالفرض
      if(waratha[i].sahem % waratha[i].number != 0){
        grand =
lcm(grand,lcm(waratha[i].sahem,waratha[i].number) / waratha[i].sahem)
      }
    }else if(waratha[i].makam == 1 && waratha[i].nasib ==
'c'){// يرث بالتعصيب
      if(baki == 0){//لم يبق شيء للمعصبين
        waratha[i].nasib = 'd'
        waratha[i].sahem = 0
      }else{
        if(!jad){//TODO: if nit jad
          waratha[i].sahem = baki
          grand =
lcm(grand,lcm(waratha[i].sahem,waratha[i].number) / waratha[i].sahem)
        }
      }
    }
  }

  if(gcd(petit,grand) == 1){petit = petit * grand}
  else{petit = petit * grand / gcd(petit,grand)}
}
baki = baki * petit
result.cppcm = result.cppcm * petit

for(var i in waratha){
  if(jad && waratha[i].makam != 1){
    waratha[i].sahem *= petit
  }
}

//العمرية الأولى
if(Masail.getMasala("1 العمرية").validate(waratha)){
  waratha[4].sahem = 3
  waratha[6].sahem = 2; waratha[6].nasib = "m"
  waratha[7].sahem = 1;waratha[7].nasib = "n"
  result.cppcm = 6
  result.tasmia = "العمرية"
  return;
}

//العمرية الثانية
if(Masail.getMasala("2 العمرية").validate(waratha)){
  var p=1;
  if(waratha[5].sahem % waratha[5].number)
    p *= waratha[5].number;

  waratha[5].sahem = p;
  waratha[6].sahem = 2 *p;waratha[6].nasib = "m"
}

```

```

waratha[7].sahem = p;waratha[7].nasib = "n"
result.tasmia = "العمرية"
return
}

//المسألة المشتركة
if(Masail.getMasala("المشتركة").validate(waratha)){
    result.asl = 6
    result.cppcm = 6;waratha[4].sahem = 3;baki = 2
    if(waratha[7].selected)
        waratha[7].sahem = 1
    if(waratha[9].selected && !waratha[7].selected)
        waratha[9].sahem = 1
    if(waratha[10] && !waratha[7].selected)
        waratha[10].sahem = 1

    var chak1 = waratha[11].number
    var chak2 = 0
    if(waratha[12].selected)
        chak2 = waratha[12].number

    var oum = waratha[15].number
    var moch = chak1 + chak2 + oum

    if(gcd(baki,moch) != 1) titp = moch / gcd(baki,moch)
    else titp = moch

    waratha[6].sahem = 3 * titp
    waratha[6].nasib = 'j'

    if(waratha[7].selected){
        waratha[7].sahem = titp
        waratha[7].nasib = 'f'
    }
    if(waratha[9].selected && !waratha[7].selected){
        waratha[9].sahem = titp
        waratha[9].nasib = 'f'
    }
    if(waratha[10].selected && !waratha[7].selected){
        waratha[10].sahem = titp
        waratha[10].nasib = 'f'
    }
    waratha[11].sahem = 2 * titp * chak1 / moch
    waratha[11].nasib = 'o'

    if(waratha[12].selected){
        waratha[12].sahem = 2 * titp * chak2 / moch
        waratha[12].nasib = 'o'
    }
    waratha[15].sahem = 2 * titp * oum / moch
    waratha[15].nasib = 'o'
    result.cppcm *= titp;
    $log.debug('titp',titp);
    $log.debug('result.cppcm',result.cppcm);
    waratha[4].sahem *= titp

```

```

    result.tasmia = "المشركة"
    return;
}

// المسألة الأكرية
if(Masail.getMasala("الأكرية").validate(waratha)){
    $log.debug('مسألة أكرية')
    waratha[4].sahem = 9;waratha[4].nasib = 'j';
    waratha[7].sahem = 6;waratha[7].nasib = 'i';
    waratha[8].sahem = 8;waratha[8].nasib = 'q';
    if(waratha[12].selected){
        waratha[12].sahem = 4;waratha[12].nasib = 'q';
    }else{
        waratha[14].sahem = 4;waratha[14].nasib = 'q';
    }
    result.tasmia = "الأكرية"
    result.cppcm = 27
    return;
}

// المسألة المالكية
if(Masail.getMasala("المالكية").validate(waratha)){
    waratha[4].sahem = 3;waratha[4].nasib = 'j';
    waratha[7].sahem = 1;waratha[7].nasib = 'f';
    waratha[8].sahem = 2;waratha[8].nasib = 'i';
    waratha[13].sahem = 0;waratha[13].nasib = 'd';
    waratha[15].sahem = 0;waratha[15].nasib = 'a';
    result.tasmia = "المالكية"
    return;
}

// المسألة شيه المالكية
if(Masail.getMasala("شبه المالكية").validate(waratha)){
    waratha[4].sahem = 3;waratha[4].nasib = 'j';
    waratha[7].sahem = 1;waratha[7].nasib = 'f';
    waratha[8].sahem = 2;waratha[8].nasib = 'i';
    waratha[11].sahem = 0;waratha[11].nasib = 'd';
    waratha[15].sahem = 0;waratha[15].nasib = 'a';
    result.tasmia = "شبه المالكية"
    return;
}

/* إعادة التصحيح بإعتبار للذكر مثل حظ الأنثيين */
if(!jad){
    var moyen = 1
    var men = 0
    var women = 0
    for(i in waratha){
        if(waratha[i].selected && waratha[i].nasib == 'b'){
            if(i == 0 || i == 2 || i == 11 || i == 13) // إذا كان
                men = waratha[i].number * 2
            if(i == 1 || i == 3 || i == 12 || i == 14) // من الإناث
                women = waratha[i].number
        }
    }
    moyen = (men + women > 0? men + women : 1)
    var titp = 1

```

من الذكور

```

if(baki % moyen != 0)
    if(gcd(baki,moyen) != 1)
        titp = moyen / gcd(baki,moyen)
    else
        titp = moyen

petit *= titp
result.cppcm *= titp //اعادة التصحيح بإعتبار الذكر مثل حظ
الأنثيين

//تحديث سهم كل وارث بعد التصحيح
for(i in waratha){
    if(waratha[i].selected){
        if(waratha[i].nasib == 'b'){// نصيبهم للذكر مثل حظ الأنثيين
            if(i == 0 || i == 2 || i == 11 || i == 13) //إذا كان
من الذكور
                waratha[i].sahem = baki * titp * men / moyen
            else if(i == 1 || i == 3 || i == 12 || i == 14) //من
الإناث
                waratha[i].sahem = baki * titp * women / moyen
        }else{
            waratha[i].sahem *= petit
        }
    }
}

if(jad){
    titp = 1
    frere = 0;
    var jfrere = 0;
    if(waratha[12].selected || waratha[14].selected){ frere =
(waratha[11].number + waratha[13].number)*2 + waratha[12].number +
waratha[14].number}
    else{ frere = waratha[11].number + waratha[13].number}
    if(waratha[12].selected || waratha[14].selected){jfrere =
frere + waratha[8].number*2}
    else{jfrere = frere + waratha[8].number}
    if(waratha[8].nasib == 'n'){
        $log.debug("baki", baki);
        $log.debug("result.cppcm", result.cppcm);
        if(baki % 3 == 0){waratha[8].sahem = baki / 3; baki =
2*baki/3}
    }
    else{
        waratha[8].sahem = baki
        for(var i in waratha){
            if(waratha[i].selected){
                if(i != 8 && i != 11 && i != 12 && i != 13 && i !=
14) waratha[i].sahem *= 3
            }
        }
        baki *= 2; petit *= 3; result.cppcm *= 3; titp *= 2;
    }
}
}
else{
    titp = 1

```

```

        if( baki % jfrere != 0)
            if(gcd(baki,jfrere) != 1) titp = jfrere /
gcd(baki,jfrere);
            else titp = jfrere;

        for(var i in waratha)
            if(waratha[i].selected)
                if(i != 8 && i != 11 && i != 12 && i != 13 && i !=
14) waratha[i].sahem *= titp;

        if(waratha[12].selected || waratha[14].selected)
waratha[8].sahem = baki * titp * 2 / jfrere
        else waratha[8].sahem = baki * titp / jfrere

        waratha[8].nasib = 'r'
        petit *= titp
        baki = baki * titp - waratha[8].sahem
        result.cppcm *= titp

    }

    moyen = 1;
    men = 0;
    women = 0;
    for(var i in waratha)
        if(waratha[i].selected)
            if(waratha[i].nasib == 'b'){
                if(i == 11 || i == 13)
                    men = waratha[i].number * 2;
                else if(i == 12 || i == 14)
                    women = waratha[i].number;
            }

    moyen = men + women;
    //console.log("moyen", moyen);

    if(waratha[11].selected && waratha[12].selected)
        if(baki % moyen != 0){
            if(gcd(baki,moyen) != 1) titp = moyen /
gcd(baki,moyen)
            else titp = moyen

            waratha[11].sahem = baki * titp * men / moyen
            waratha[12].sahem = baki * titp * women / moyen
            waratha[8].sahem *= titp
            for(var i in waratha)
                if(waratha[i].selected)
                    if(i != 8 && i != 11 && i != 12 && i != 13 && i !=
14)
                        waratha[i].sahem *= titp

            petit *= titp
            result.cppcm *= titp

        }else{
            waratha[11].sahem = baki * men / moyen
            waratha[12].sahem = baki * women / moyen

```

```

    }

    if(waratha[14].selected && !waratha[11].selected &&
!waratha[12].selected && !waratha[13].selected)
        waratha[14].sahem = baki

    if(waratha[13].selected && !waratha[11].selected &&
!waratha[12].selected && !waratha[14].selected)
        waratha[13].sahem = baki

    if(waratha[11].selected && !waratha[12].selected){
        waratha[11].sahem = baki
        if(waratha[13].selected) waratha[13].sahem = 0
        if(waratha[14].selected) waratha[14].sahem = 0

        //?????

        titp = 1;
        if(baki % waratha[11].number != 0)
            if(gcd(baki,waratha[11].number) != 1) titp =
waratha[11].number / gcd(baki, waratha[11].number)
            else titp = waratha[11].number

        waratha[8].sahem *= titp
        waratha[11].sahem *= titp
        petit *= titp
        result.cppcm *= titp

        for(var i in waratha)
            if(waratha[i].selected)
                if(i != 8 && i != 11 && i != 12 && i != 13 && i !=
14)
                    waratha[i].sahem *= titp
    }

    //console.log("baki", baki);
    //console.log("result.cppcm", result.cppcm);
    if(waratha[12].selected && !waratha[11].selected)
        if(waratha[12].number == 1)
            if(baki <= result.cppcm / 2){
                waratha[12].sahem = baki
                if(waratha[8].nasib != 'r')
                    waratha[12].nasib = 'c'
                if(waratha[13].selected || waratha[14].selected){
                    $log.debug('here')
                    if(waratha[13].selected){waratha[13].sahem =
0;waratha[13].nasib = 'd';}
                    if(waratha[14].selected){waratha[14].sahem =
0;waratha[14].nasib = 'd';}
                }
            }else{

                men = 0;
                women = 0;
                moyen = 1;

```

```

        if(result.cppcm % 2 != 0){baki *= 2;waratha[8].sahem
*= 2;result.cppcm *= 2;}

        waratha[12].sahem = result.cppcm /2
        waratha[12].makam = '3'
        waratha[12].nasib = 'j'
        baki = baki - result.cppcm /2

        //todo : make sure init var men and women
        if(waratha[14].selected) men = waratha[13].number *2
        else men = waratha[13].number

        women = waratha[14].number

        moyen = men + women
        titp = 1
        if(baki % moyen != 0)
            if(gcd(baki,moyen) != 1) titp = moyen /
gcd(baki,moyen)
            else titp = moyen

        waratha[8].sahem *= titp
        waratha[12].sahem *= titp

        if(waratha[13]) waratha[13].sahem = baki *titp * men
/moyen
        if(waratha[14]) waratha[14].sahem = baki *titp *
women /moyen

        petit *= titp
        result.cppcm *= titp

        for(var i in waratha)
            if(waratha[i].selected)
                if(i != 8 && i != 11 && i != 12 && i != 13 && i
!= 14)
                    waratha[i].sahem *= titp
        }
        else if(waratha[12].number > 1){
            waratha[12].sahem = baki
            if(waratha[13].selected){waratha[13].sahem =
0;waratha[13].nasib = 'd'}
            if(waratha[14].selected){waratha[14].sahem =
0;waratha[14].nasib = 'd'}

            if(waratha[8].nasib != 'r'){waratha[12].nasib =
'c';waratha[12].makam = 1}

            titp = 1
            if(baki % waratha[12].number != 0)
                if(gcd(baki,waratha[12].number) != 1) titp =
waratha[12].number / gcd(baki,waratha[12].number)
                else titp = waratha[12].number

            waratha[8].sahem *= titp
            waratha[12].sahem *= titp
            petit *= titp

```

```

        result.cppcm *= titp

        for(var i in waratha)
            if(waratha[i].selected)
                if(i != 8 && i != 12) waratha[i].sahem *= titp
    }

    // جد مع اخ لاب واخت لاب
    if(waratha[13].selected && waratha[14].selected &&
waratha[13].nasib == 'b' && waratha[14].nasib == 'b')
        if(baki % moyen != 0){
gcd(baki,moyen)
            if(gcd(baki,moyen) != 1) titp = moyen /
            else titp = moyen

            waratha[13].sahem = baki * titp * men / moyen
            waratha[14].sahem = baki * titp * women / moyen
            waratha[8].sahem *= titp
            for(var i in waratha)
                if(waratha[i].selected)
                    if(i != 8 && i != 11 && i != 12 && i != 13 && i !=
14)
                        waratha[i].sahem *= titp

            petit *= titp
            result.cppcm *= titp

        }else{
            waratha[13].sahem = baki * men / moyen
            waratha[14].sahem = baki * women / moyen
        }
    }

    // تجنب للذكر مثل حظ الانثيين عند الاخت الشقيقة اذا لم تكن حالة
جد
    if(!waratha[11].selected && waratha[12].number > 2 &&
waratha[12].nasib == 'b'){
        if(waratha[8].nasib != 'r'){waratha[12].nasib =
'c';waratha[12].makam = 1;}
    }

    for(i in waratha){
        if(waratha[i].nasib == 'l'){// اذا كان نصيب وارث كل المال
            waratha[i].sahem = waratha[i].number
            result.asl = 1
            result.cppcm = waratha[i].number
        }
    }

    var masails = Masail.getAll();
    for(var i in masails){
        if(masails[i].validate(waratha)){
            result.tasmia = masails[i].name
        }
    }

```

```

    }

    clacRad(waratha,xtot);
  },
  getAsl: function () {
    return result.asl;
  },
  getAol: function () {
    return result.aol;
  },
  getTashih: function(){
    return result.cppcm;
  },
  getResult :function(){
    return result;
  },
  clear: function () {
    for (var i in waratha) {
      waratha[i].number = 0
      waratha[i].selected = false
    }
  }
}
})

.factory('Masail', function () {
  var masail = [
    {
      name: '1 العمرية',
      makeIt: function (w) {
        w[4].number = 1 //زوج
        w[4].selected = true;
        w[6].number = 1 //أم
        w[6].selected = true;
        w[7].number = 1 //أب
        w[7].selected = true;

        //$.rootScope.$emit('calc', true);
      },
      validate: function (w) {
        if (w[4].number > 0 // لها زوج
          && w[6].number > 0 // وأب
          && w[7].number > 0 // وأم
          && w[0].number == 0 // ليس لها أولاد
          && w[1].number == 0
          && w[2].number == 0
          && w[3].number == 0
          && (w[11].number + w[12].number + w[13].number +
w[14].number + w[15].number < 2))
          return true;
        return false
      }
    },
    {
      name: '2 العمرية',
      makeIt: function (W) {
        W[5].number = 1 //زوجة

```

```

    W[5].selected = true;
    W[6].number = 1 //أب
    W[6].selected = true;
    W[7].number = 1 //أم
    W[7].selected = true;
    // $rootScope.$emit('calc', true);
  },
  validate: function (w) {
    if (w[5].number > 0
      && w[6].number > 0
      && w[7].number > 0
      && w[0].number == 0 // ليس له أولاد
      && w[1].number == 0
      && w[2].number == 0
      && w[3].number == 0
      && (w[11].number + w[12].number + w[13].number +
w[14].number + w[15].number < 2))
      return true;
    return false
  }
},
{
  name: 'المشركة',
  makeIt: function (W) {
    W[4].number = 1 //زوج
    W[4].selected = true;
    W[7].number = 1 //أم
    W[7].selected = true;
    W[11].number = 2 //أخ شقيق
    W[11].selected = true;
    W[15].number = 2 //أخت لأم ، أخ
    W[15].selected = true;
    // $rootScope.$emit('calc', true);
  },
  validate: function (w) {
    if(!w[0].selected
      && !w[1].selected
      && !w[2].selected
      && !w[3].selected
      && !w[6].selected
      && !w[8].selected
      && w[4].selected
      && (w[7].selected || w[9].selected || w[10].selected)
      && w[11].selected
      && w[15].number > 1)
      return true;
    return false
  }
},
{
  name: 'الأكاديمية',
  makeIt: function (W) {
    W[4].number = 1 //زوج
    W[4].selected = true;
    W[7].number = 1 //أم
    W[7].selected = true;
    W[8].number = 1 //جد

```

```

    W[8].selected = true;
    W[12].number = 1 //أخت شقيقة
    W[12].selected = true;
  },
  validate: function (w) {
    if(!w[0].selected
    && !w[1].selected
    && !w[2].selected
    && !w[3].selected
    && !w[6].selected
    && !w[11].selected
    && w[4].selected
    && w[7].selected
    && w[8].selected
    && (w[12].number == 1 || (w[14].number == 1 &&
!w[13].selected)))
      return true;
    return false
  }
},
{
  name: 'المالكية',
  makeIt: function (W) {
    W[4].number = 1 //زوج
    W[4].selected = true;
    W[7].number = 1 //أم
    W[7].selected = true;
    W[8].number = 1 //جد
    W[8].selected = true;
    W[13].number = 1 //أخ لأب
    W[13].selected = true;
    W[15].number = 2 // أخ / أخت لأم
    W[15].selected = true;
  },
  validate: function (w) {
    if(!w[0].selected
    && !w[1].selected
    && !w[2].selected
    && !w[3].selected
    && !w[6].selected
    && w[8].selected
    && w[4].selected
    && w[7].selected
    && w[13].selected
    && !w[14].selected
    && w[15].number > 1)
      return true;
    return false
  }
},
{
  name: 'شبه المالكية',
  makeIt: function (W) {
    W[4].number = 1 //زوج
    W[4].selected = true;
    W[7].number = 1 //أم
    W[7].selected = true;

```

```

    W[8].number = 1 //جد
    W[8].selected = true;
    W[11].number = 1 //أخ شقيق
    W[11].selected = true;
    W[15].number = 2 //أب
    W[15].selected = true;
  },
  validate: function (w) {
    if(!w[0].selected
    && !w[1].selected
    && !w[2].selected
    && !w[3].selected
    && !w[6].selected
    && w[8].selected
    && w[4].selected
    && w[7].selected
    && w[11].selected
    && !w[12].selected
    && w[15].number > 1)
      return true;
    return false
  }
},
{
  name: 'المنبرية',
  makeIt: function (W) {
    W[5].number = 1 //زوجة
    W[5].selected = true;
    W[6].number = 1 //أب
    W[6].selected = true;
    W[7].number = 1 //أم
    W[7].selected = true;
    W[1].number = 2 //بناتان
    W[1].selected = true;
  },
  validate: function (w) {
    if(w[5].number == 1
    && w[6].number == 1
    && w[7].number == 1
    && w[1].number == 2)
      return true;
    return false
  }
},
{
  name: 'الخرفاء',
  makeIt: function (W) {
    W[7].number = 1 //أم
    W[7].selected = true;
    W[8].number = 1 //جد
    W[8].selected = true;
    W[12].number = 1 //أخت شقيقة
    W[12].selected = true;
  },
  validate: function (w) {
    if(w[7].number == 1
    && w[8].number == 1

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        && w[12].number == 1)
        return true;
        return false
    }
},
{
    name: 'أم الفروخ',
    makeIt: function (w) { // زوج وام واختان شقيقتان واخوان او
اختان لأم
        w[4].number = 1
        w[4].selected = true;
        w[7].number = 1
        w[7].selected = true;
        w[12].number = 2
        w[12].selected = true;
        w[15].number = 2
        w[15].selected = true;
    },
    validate: function (w) {
        if(w[4].number == 1
            && w[7].number == 1
            && w[12].number == 2
            && w[15].number == 2)
            return true;
        return false
    }
},
{
    name: 'الدينارية',
    makeIt: function (w) { // جدة لأب و زوجة و بنتان واثناعشر أخ
شقيق واخت شقيقة
        w[9].number = 1
        w[9].selected = true;
        w[5].number = 1
        w[5].selected = true;
        w[1].number = 2
        w[1].selected = true;
        w[11].number = 12
        w[11].selected = true;
        w[12].number = 1
        w[12].selected = true;
    },
    validate: function (w) {
        if(w[9].number == 1
            && w[5].number == 1
            && w[1].number == 2
            && w[11].number == 12
            && w[12].number == 1)
            return true;
        return false
    }
},
{
    name: 'أم الأرامل',
    makeIt: function (w) { // جدة لأب و جدة لأم وثلاث زوجات واربعة
اخوة او اخوات لأم و ثمانية اخوات شقيقات
        w[9].number = 1

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w[9].selected = true;
w[10].number = 1
w[10].selected = true;
w[5].number = 3
w[5].selected = true;
w[15].number = 4
w[15].selected = true;
w[12].number = 8
w[12].selected = true;
},
validate: function (w) {
  if(w[9].number == 1
    && w[10].number == 1
    && w[5].number == 3
    && w[15].number == 4
    && w[12].number == 8)
    return true;
  return false
}
},
{
  name: 'المباهلة',
  makeIt: function (w) { // زوج وام واخت شقيقة
    w[4].number = 1
    w[4].selected = true;
    w[7].number = 1
    w[7].selected = true;
    w[12].number = 1
    w[12].selected = true;
  },
  validate: function (w) {
    if(w[4].number == 1
      && w[7].number == 1
      && w[12].number == 1)
      return true;
    return false
  }
},
{
  name: 'الأخ المبارك',
  makeIt: function (w) { // اختان شقيقتان و اخ لأب وأخت لأب
    w[12].number = 2
    w[12].selected = true
    w[13].number = 1
    w[13].selected = true
    w[14].number = 1
    w[14].selected = true
  },
  validate: function (w) {
    if(w[12].number == 2
      && w[13].number == 1
      && w[14].number == 1)
      return true;
    return false
  }
},
{

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name: 'الأخ المشؤوم',
makeIt: function (w) {
  w[4].number = 1// مسألة فيها زوج
  w[4].selected = true
  w[12].number = 1 // وأخت شقيقة
  w[12].selected = true
  w[13].number = 1//أخ لأب
  w[13].selected = true
  w[14].number = 1//أخت لأب
  w[14].selected = true
},
validate: function (w) {
  if(w[4].number == 1
    && w[12].number == 1
    && w[13].number == 1
    && w[14].number == 1)
    return true;
  return false
}
},
{
name: 'القريب المشؤوم',
makeIt: function (w) {
  w[4].number = 1// المسألة فيها زوج
  w[4].selected = true
  w[6].number = 1 // وأب
  w[6].selected = true
  w[7].number = 1//أم
  w[7].selected = true
  w[1].number = 1//بنت
  w[1].selected = true
  w[3].number = 1//بنت ابن
  w[3].selected = true
  w[2].number = 1//ابن ابن
  w[2].selected = true
},
validate: function (w) {
  if(w[4].number == 1
    && w[6].number == 1
    && w[7].number == 1
    && w[1].number == 1
    && w[3].number == 1
    && w[2].number == 1)
    return true;
  return false
}
},
{
name: '(الجد مع الإخوة (ثلث التركة)',
makeIt: function(w){
  w[8].number = 1
  w[8].selected = true
  w[11].number = 2
  w[11].selected = true
  w[12].number = 1
  w[12].selected = true
},

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    validate: function () {
        return false;
    }
},
{
    name: '(الجد مع الإخوة (ثلث الباقي)',
    makeIt: function(w){
        w[8].number = 1
        w[8].selected = true
        w[5].number = 1
        w[5].selected = true
        w[11].number = 2
        w[11].selected = true
        w[12].number = 1
        w[12].selected = true
    },
    validate: function () {
        return false;
    }
},
{
    name: '(الجد مع الإخوة (سدس التركة)',
    makeIt: function(w){
        w[1].number = 1
        w[1].selected = true
        w[8].number = 1
        w[8].selected = true
        w[11].number = 2
        w[11].selected = true
        w[12].number = 1
        w[12].selected = true
    },
    validate: function () {
        return false;
    }
},
{
    name: '(الجد مع الإخوة (يشارك الإخوة)',
    makeIt: function(w){
        w[1].number = 1
        w[1].selected = true
        w[8].number = 1
        w[8].selected = true
        w[11].number = 1
        w[11].selected = true
        w[12].number = 1
        w[12].selected = true
    },
    validate: function () {
        return false;
    }
}
]

return {
    getAll: function () {
        return masail
    }
}

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    },
    getMasala: function (masala) {
        if (!isNaN(masala)) {
            return masail[masala]
        }
        for (var i in masail)
            if (masala == masail[i].name) {
                //console.log(masail[i]);
                return masail[i]
            }
        throw ' لا يوجد مسألة ' + masala
    }
}
}))

.factory('$localStorage', ['$window', function($window) {
    return {
        set: function(key, value) {
            $window.localStorage[key] = value;
        },
        get: function(key, defaultValue) {
            return $window.localStorage[key] || defaultValue;
        },
        setObject: function(key, value) {
            $window.localStorage[key] = JSON.stringify(value);
        },
        getObject: function(key) {
            return JSON.parse($window.localStorage[key] || '{}');
        }
    }
}]);

```