

פתרון תרגיל בית מספר 10 (סמסטר חורף 2014)

להלן תוכן 5 הקבצים P10.1-P10.5.

P10.1

```
BEGIN {
  for (i=1; i<length(ARGV); i++) {
    B[ARGV[i]]=0
  }
}
{
  isGood=1
  for (i=1; i<=NF; i++) {
    if (gsub("[0-9]","&",$i) > 0) {
      isGood=0
      break
    }
  }
  if (isGood==1) {
    if (length($0) > B[FILENAME]) {
      B[FILENAME]=length($0)
    }
  }
}
END {
  max=0
  files=""
  for (i=1; i<length(ARGV); i++) {
    print ARGV[i],B[ARGV[i]]
    if (B[ARGV[i]] > max) {
      max=B[ARGV[i]]
    }
  }
  for (i=1; i<length(ARGV); i++) {
    if (B[ARGV[i]] == max) {
      files=files ARGV[i]" "
    }
  }
  print files
}
```

P10.2

```
#!/bin/awk -f
{
  A[FILENAME]=FNR
  for (i=1; i<=NF; i++) {
    B[FILENAME,FNR]=B[FILENAME,FNR]+$i
    C[FILENAME,i]=C[FILENAME,i]+$i
  }
}
END {
  files=""
  for (i=1; i<length(ARGV); i++) {
    if (A[ARGV[i]] == 1) {
      print ARGV[i],"YES"
      files=files ARGV[i] " "
    }
    else {
      row=B[ARGV[i],1]
      col=C[ARGV[i],1]
      isGoodR=1
      isGoodC=1
      for (j=2; j<=A[ARGV[i]]; j++) {
        if (B[ARGV[i],j] != row) {
          isGoodR=0
        }
        if (C[ARGV[i],j] != col) {
          isGoodC=0
        }
      }
      if (isGoodR==1 || isGoodC==1) {
        print ARGV[i],"YES"
        files=files ARGV[i] " "
      }
      else {
        print ARGV[i],"NO"
      }
    }
  }
  print files
}
```

P10.3

```
#!/bin/awk -f
BEGIN{
    C[1]="January"
    C[2]="February"
    C[3]="March"
    C[4]="April"
    C[5]="May"
    C[6]="June"
    C[7]="July"
    C[8]="August"
    C[9]="September"
    C[10]="October"
    C[11]="November"
    C[12]="December"
    for (i=1; i<length(ARGV); i++) {
        for (j=1; j<13; j++) {
            B[ARGV[i],C[j]]=0
        }
    }
}
{
    A[FILENAME]=FNR
    B[FILENAME,$2]=B[FILENAME,$2]+1
}
END {
    for (i=1; i<length(ARGV); i++) {
        fname=ARGV[i]
        max=0
        for (j=1; j<13; j++) {
            if (B[fname, C[j]] > max) {
                max=B[fname, C[j]]
            }
        }
        months=""
        for (j=1; j<13; j++) {
            if (B[fname, C[j]] == max) {
                months=months C[j] " "
            }
        }
        print fname,max,months A[fname]
    }
}
```

P10.4

```
{
  A[FILENAME]=FNR
  for (i=1; i<=NF; i++) {
    B[FILENAME,FNR,i]=$i
  }
}
END {
  files=""
  for (i=1; i<length(ARGV); i++) {
    fname=ARGV[i]
    num=0
    n=A[fname]
    for (j=1; j<=A[fname]; j++) {
      num=num+B[fname,j,j]-B[fname,j,n+1-j]
    }
    print fname,num
    if (i==1) {
      minnum=num
    }
    else {
      if (num < minnum) {
        minnum=num
      }
    }
    D[fname]=num
  }
  for (i=1; i<length(ARGV); i++) {
    if (D[ARGV[i]] == minnum) {
      files=files ARGV[i] " "
    }
  }
  print files
}
```

P10.5

```
sed '/'$2'/'!d' $1 >| MS_T10
sed 's/^\([ ]*\)\([ ]+\)\([ ]+\)\([ ]+\)\(.*\)/\1\2\3\4 \4\5/' MS_T10
```