להלן תוכן 5 הקבצים P11.1-P11.5.

P11.1

```
{
   for (i=1; i<=NF; i++) {
     A[FNR,i]=$i
   }
}
END {
   k=0
   half=FNR/2
   if (FNR%2 != 0) {
     half = half+0.5
   }
   system("echo -n >| MS_AWK_SYS")
   while (k <= half - 1) {
     o=k*1
     sum=0
     from=o+1
     to=FNR-o
     if (from == to) {
       sum=sum+A[to,to]
     }
     else {
       for (i=from; i<=to; i++) {
          sum=sum+A[from,i]+A[to,i]+A[i,from]+A[i,to]
       }
       sum=sum-A[to,to]-A[from,from]-A[to,from]-A[from,to]
     }
     k=k+1
     system("echo " sum " >> MS_AWK_SYS")
   }
   system("echo $(sort -n MS_AWK_SYS)")
   system("rm MS_AWK_SYS")
}
```

P11.2

```
echo -n >| MS_FILES
for x in $@
do
  echo -n >| MS_NUMBERS
  num=$(head -1 $x | tr -s " " "\n" | wc -l)
  k=0
  half=$[$num/2]
  if [ $[$num%2] -ne 0 ]
  then
      half=$[$half+1]
  fi
  while [ $k -le $[$half-1] ]
  do
    o=$[$k*1]
    from=$[$o+1]
    to=$[$num-$o]
    if [ $from -eq $to ]
    then
      s=$(head -$from $x | tail -1 | cut -d" " -f$from)
    else
      echo -n >| MS_LINES
      echo $(head -$from $x | tail -1) >> MS_LINES
      echo $(tail -$from $x | head -1) >> MS_LINES
      cut -d" " -f$from-$to MS_LINES >| MS_NUMS
      head -$to $x | tail -$[$to-$from+1] >| MS_LINES
      cut -d" " -f$from,$to MS_LINES >> MS_NUMS
      s=$[$(echo $(cat MS_NUMS) | tr -s " " "+")]
      head -1 MS_LINES | cut -d" " -f$from,$to >| MS_REM
      tail -1 MS_LINES | cut -d" " -f$from,$to >> MS_REM
      s=$[$s-$(echo $(cat MS_REM) | tr -s " " "-")]
      rm MS_LINES MS_NUMS MS_REM
    fi
    echo $s >> MS_NUMBERS
    k=$[$k+1]
  done
  echo $x  $(sort -n MS_NUMBERS) >> MS_FILES
done
sort MS_FILES
rm MS_FILES MS_NUMBERS
```

P11.3

```
num=$1
shift
echo -n >| MS_ALLNUMS
for x in $(seq $num)
do
  echo -n >| MS_CURLINE
  for y in $@
  do
    echo $(cat $y) | tr -s " " "\n" | sort -n -r >| MS_SORTED
    head -$x MS_SORTED | tail -1 >> MS_CURLINE
  done
  echo $(cat MS_CURLINE) >> MS_ALLNUMS
done
cat MS_ALLNUMS
rm MS_CURLINE MS_ALLNUMS
```

P11.4

```
y=$(cat $1)
shift
x=$#

while [ $x -ge 1 ]
  do
  y=$(echo "${y//@$1@/$2}")
  shift;shift;x=$[$x-2]
  done

echo "$y"
```

P11.5

```
BEGIN {
  end=length(ARGV)
  for (i=1; i<end; i++) {
     if (ARGV[i] == "-files") {
        delete ARGV[i]
        startIndex=i+1
        break
     }
     A[i]=ARGV[i]
     delete ARGV[i]
  }
  for (i=startIndex; i<end; i++) {
    B[ARGV[i]] = 0
  }
}
{
  for (x in A) {
    num = A[x]
    for (i=1; i<=NF; i++) {
       if (num == $i) {
          B[FILENAME]=B[FILENAME]+num
       }
    }
  }
}
END {
  for (i=startIndex; i<length(ARGV); i++) {
    print ARGV[i],B[ARGV[i]]
  }
}
```