

Burt Rosenberg

Answer Set 2

OUT: 14 SEPTEMBER, 1993

```
program letFreq( input, output ) ;

{ program to count letter frequencies,
  and print a small histogram.
  burt rosenberg, 27 aug 93
  revised 14 sep 93
}

const
  infile = 'InFile.txt' ;

var
  a : array [0..25] of integer ;
  i, j :integer ;
  ch : char ;
  total, most : integer ;
  f : TEXT ;

begin

  { zero out array of letter counts.
    a[0] corresponds to 'a' and 'A',
    a[25] to 'z' and 'Z'. }
  for i := 0 to 25 do a[i] := 0 ;

  {open file and count letters}
  reset( f, inFile ) ;
  while (not eof(f)) do begin
    read(f, ch ) ;
    if (ch>='a') then i := ord(ch) - ord('a') {convert the upper case}
    else i := ord(ch) - ord('A') ;           {convert the lower case}
    if ((i>=0) and (i<=25)) then
      a[i] := a[i] + 1 ;
  end ;

  { write first line of output while collecting
    statistics, total number of letters and number of
    most frequent letter }
  total := 0 ;
  most := 0 ;
```

```
writeln ;
write(' ');
for i := 0 to 25 do begin
    write(' ', chr(i+ ord('a'))), ' ');
    if (most<a[i]) then most := a[i] ;
    total := total + a[i] ;
end ;
if total=0 then total := 1 ; {correct for empty text files}

{ write second line of output, percentage of
  each letter. }
writeln ;
for i := 0 to 25 do begin
    j := (100 * a[i]) div total ;
    write(j:3) ;
end ;
writeln ;

{ make histogram. Cycle to 1/10's putting an
  X if the letter's percentage exceeds that tenth. }
for j := 0 to 9 do begin
    write(' ');
    for i := 0 to 25 do begin
        if ((10*a[i])>(j*most)) then write(' X ' )
        else write(' ');
    end ;
    writeln ;
end ;

end.
```

