```
"""
OLIVETTIZE.PY
INPUT A TEXT ASCII IMAGE AND GENERATE THE SIMULATED PRINTOUT USING CHARACTER IMAG
BASED ON EARLIER PROGRAMS "MAKEIMAGE2.PY" AND "IBM14Ø3.PY".

E.M.F. JANUARY 2Ø21

1/5/2Ø21   IMPLEMENTED IMAGE BLENDING FOR OVERSTRIKE OF SINGLE CHARACTERS
1/11/2Ø21  ADDED NOTES ON PAGE SIZE; SAVE IMAGES AS 12ØØDPI
1/17/2Ø21  REWRITTEN TO USE AN OBJECT CLASS "PRINTPAGE", ENABLE PRINTING TITLE A
1/22/2Ø21  REMOVED CODE TO PRINT AT BOTTOM OF PAGE
           INTRODUCED PAGEWIDTH AND PAGEHEIGHT, ABLE TO PRINT MULTIPLE PAGES
1/25/2Ø21  CLEANED UP PAGE HANDLING AND CORRECTED THE PAGE FLUSH
"""



FROM PIL IMPORT IMAGE, IMAGEENHANCE, IMAGECHOPS
IMAGE.MAX←IMAGE←PIXELS = 11Ø486672 # MY IMAGE SIZE EXCEEDS THE DOS WARNING
IMPORT SYS, MATH

"""
A PRINTPAGE IS AN IMAGE OBJECT THAT REPRESENTS AN 8.5X11" PAPER AT 12ØØDPI.
THE CURSOR IS STORED BY COLUMN AND ROW.
METHODS OF THE CLASS INCLUDE ADDING ("PRINTING") A CHARACTER IMAGE TO THE PAGE.
"""

CLASS PRINTPAGE:
    # IBM14Ø3 PAPER IS 14-7/8" WIDE AND 11" HIGH
    # OLIVETTI TE-318 IS 8.5" WIDE AND 11" HIGH WITH A PRINTABLE AREA
    PAGEROWS = 66
    PAGECOLS = 85
    PAGEWIDTH = PAGECOLS*12Ø
    PAGEHEIGHT = PAGEROWS*2ØØ # THIS WAS 2Ø1

    DEF ←←INIT←←(SELF,NUMBER):
        # PAGE NUMBER
        SELF.NUMBER = NUMBER
        # MAKE BLANK IMAGE PAGE (1ØCHARS/IN, 6 ROWS/IN)
        MODE, SIZE, COLOR = 'L', (SELF.PAGEWIDTH, SELF.PAGEHEIGHT), 255
        SELF.IMG = IMAGE.NEW(MODE, SIZE, COLOR)

        # START AT TOP LEFT CORNER OF PAGE
        SELF.COLUMN = Ø
        SELF.ROW = Ø

        # INITIAL OFFSET
        IF NUMBER == 1: SELF.VOFFSET = 2
        ELSE: SELF.VOFFSET = Ø
        SELF.HOFFSET = 3

    DEF PRINTCHAR(SELF,CHAR):
        # I HAVE 4 VERSIONS OF THE CHARACTER SET FOR SOME VARIATION, SO FILES AR
        # NN = Ø-3, NN = ASCII VALUE
        IF CHAR != ' ': # SPACE CHARACTER, JUST ADVANCE
            CHARFILE = "CHARS/" + "[Ø:Ø2N]".FORMAT(SELF.ROW % 3) + "[Ø:Ø2N]".FOR
            TRY:
                WITH IMAGE.OPEN(CHARFILE) AS CHARIMG:
                    WIDTH, HEIGHT = CHARIMG.SIZE
                    IMGX = (SELF.COLUMN+SELF.HOFFSET)*WIDTH
                    IMGY = (SELF.ROW+SELF.VOFFSET)*HEIGHT
                    TEMPIMG = SELF.IMG.CROP((IMGX,IMGY,IMGX+WIDTH,IMGY+HEIGHT))
                    TEMPIMG = IMAGECHOPS.DARKER(TEMPIMG, CHARIMG)
                    SELF.IMG.PASTE(TEMPIMG,(IMGX,IMGY,IMGX+WIDTH,IMGY+HEIGHT))
            EXCEPT OSERROR:
                PRINT("ERROR OPENING CHARACTER FILE", CHARFILE, " LINE ",SELF.ROW
            IF SELF.COLUMN <= 79: SELF.COLUMN += 1

"""
 MAIN PROGRAM
"""
IF ←←NAME←← == '←←MAIN←←':
    """
    THE TEXT FILE FOR AN ASCII IMAGE IS TYPICALLY 132 COLUMNS WIDE AND 66 ROWS LO
    THE PAPER IS 14 7/8" WIDE AND 11" LONG, SO THE INITIAL INDENT SHOULD BE 8 CHA
    """

    # I'M EXPECTING THE TEXT FILE AS THE FIRST AGUMENT
    # OPEN THE FILE AS A BINARY TO CAPTURE THE CR'S
    IF LEN(SYS.ARGV) == 2:
        FILENAME = SYS.ARGV[1]
        TRY:
            WITH OPEN(FILENAME, MODE='RB') AS TEXTFILE:
                # INITIALIZE THE PAGE
                NUMPAGE = 1
                PAGE = PRINTPAGE(NUMPAGE)
                OUTPUT = []

                # PROCESS EACH LINE OF THE TEXT FILE
                # REWRITE TO USE THE FORTRAN CARRIAGE CONTROL CHARACTERS
                FOR LINE IN TEXTFILE:
                    # PROCESS EACH CHARACTER IN LINE
                    FOR BYTE IN LINE:
                        IF BYTE == 1Ø: # NEW LINE
                            PAGE.ROW += 1
                            PAGE.COLUMN = Ø
                            IF PAGE.ROW == PAGE.PAGEROWS - PAGE.VOFFSET:
                                OUTPUT.APPEND(PAGE)
                                NUMPAGE += 1 # ADD A PAGE
                                PAGE = PRINTPAGE(NUMPAGE)
                        ELIF BYTE == 13: # CARRIAGE RETURN - OVERSTRIKE
                            PAGE.COLUMN = Ø
                        ELIF BYTE == 12: # FORM FEED
                            OUTPUT.APPEND(PAGE)
                            NUMPAGE += 1
                            PAGE = PRINTPAGE(NUMPAGE)
                        ELSE:
                            # DRAW EACH CHARACTER ON THE PAGE
                            CHAR = INT(BYTE)
                            IF CHAR > 95: CHAR -= 32 # OLIVETTI ONLY PRINTS 32-9
                            PAGE.PRINTCHAR(CHAR)

                # FLUSH THE LAST PAGE TO THE OUTPUT
                OUTPUT.APPEND(PAGE)

                PDF = []
                FOR PAGE IN OUTPUT:
                    PRINT("PRINTING PAGE ", PAGE.NUMBER, " OF ", NUMPAGE)
                    PAGE.IMG = PAGE.IMG.RESIZE((PAGE.PAGEWIDTH//2,PAGE.PAGEHEIGH
                    PDF.APPEND(PAGE.IMG)
                    # PAGE.IMG.SAVE(FILENAME.SPLIT('.')[Ø] + '←O←' + STR(PAGE.NU

                PRINT ("SAVING PDF...")
                PDF[Ø].SAVE(FILENAME.SPLIT('.')[Ø] + '.PDF', "PDF", RESOLUTION=6

                TEXTFILE.CLOSE()

        EXCEPT OSERROR:
            PRINT("ERROR OPENING", FILENAME)
    ELSE:
        PRINT("\NUSAGE: OLIVETTIZE.PY FILENAME \N")
```