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USING: assocs calendar combinators environment formatting  
grouping io io.files kernel make math math.ranges sequences  
splitting xml.entities ;

IN: text-to-pdf

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```
: pdf-string ( str -- str' )
  H{
    { HEX: 08    "\\b" }
    { HEX: 0c    "\\f" }
    { CHAR: \n   "\\n" }
    { CHAR: \r   "\\r" }
    { CHAR: \t   "\\t" }
    { CHAR: \\   "\\\\" }
    { CHAR: (    "\\(" }
    { CHAR: )    "\\)" }
  } escape-string-by "(" ")" surround ;

: pdf-object ( str n -- str' )
  "%d 0 obj\n" sprintf "\nendobj" surround ;

: pdf-stream ( str -- str' )
  [ length 1 + "<<\n/Length %d\n>>" sprintf ]
  [ "\nstream\n" "\nendstream" surround ] bi append ;

: pdf-info ( -- str )
  [
    "<<" ,
    "/CreationDate D:" now "%Y%m%d%H%M%S" strftime append ,
    "/Producer (Factor)" ,
    "/Author " "USER" os-env "unknown" or pdf-string append ,
    "/Creator (created with Factor)" ,
    ">>" ,
  ] { } make "\n" join ;

: pdf-catalog ( -- str )
  {
    "<<"
    "/Type /Catalog"
    "/Pages 4 0 R"
    ">>"
  } "\n" join ;

: pdf-font ( -- str )
  {
    "<<"
    "/Type /Font"
    "/Subtype /Type1"
    "/BaseFont /Courier"
    ">>"
  } "\n" join ;
```

```

: pdf-pages ( n -- str )
[
    "<<" ,
    "/Type /Pages" ,
    "/MediaBox [ 0 0 612 792 ]" ,
    [ "/Count %d" sprintf , ]
    [
        5 swap 2 range boa
        [ "%d 0 R " sprintf ] map concat
        "/Kids [ " "]" surround ,
    ] bi
    ">>" ,
] { } make "\n" join ;

: pdf-text ( lines -- str )
[
    "BT" ,
    "54 738 Td" ,
    "/F1 10 Tf" ,
    "12 TL" ,
    [ pdf-string "'" append , ] each
    "ET" ,
] { } make "\n" join pdf-stream ;

: pdf-page ( n -- page )
[
    "<<" ,
    "/Type /Page" ,
    "/Parent 4 0 R" ,
    1 + "/Contents %d 0 R" sprintf ,
    "/Resources << /Font << /F1 3 0 R >> >>" ,
    ">>" ,
] { } make "\n" join ;

: pdf-trailer ( objects -- str )
[
    "xref" ,
    dup length 1 + "0 %d" sprintf ,
    "0000000000 65535 f" ,
    9 over [
        over "%010X 00000 n" sprintf , length 1 + +
    ] each drop
    "trailer" ,
    "<<" ,
    dup length 1 + "/Size %d" sprintf ,
    "/Info 1 0 R" ,
    "/Root 2 0 R" ,
    ">>" ,
    "startxref" ,
    [ length 1 + ] map-sum 9 + "%d" sprintf ,
    "%EOF" ,
] { } make "\n" join ;

: string>lines ( str -- lines )
"\t" split " " join string-lines
[ [ " " ] when-empty ] map ;

```

```

: lines>pages ( lines -- pages )
  [ 84 <groups> ] map concat 57 <groups> ;

: pages>objects ( pages -- objects )
  [
    pdf-info ,
    pdf-catalog ,
    pdf-font ,
    dup length pdf-pages ,
    dup length 5 swap 2 range boa zip
    [ pdf-page , pdf-text , ] assoc-each
  ] { } make
  dup length [1,b] zip [ first2 pdf-object ] map ;

: objects>pdf ( objects -- str )
  [ "\n" join "\n" append "%PDF-1.4\n" ]
  [ pdf-trailer ] bi surround ;

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: text-to-pdf ( str -- str' )
  string>lines lines>pages pages>objects objects>pdf ;

: file-to-pdf ( path encoding -- )
  [ file-contents text-to-pdf ]
  [ [ ".pdf" append ] dip set-file-contents ] 2bi ;

```