

HEADER

%PDF-1.1

```
%PDF-1.1
1 0 obj
<<
  /Pages 2 0 R
>>
endobj
2 0 obj
<<
  /Type /Pages
  /Count 1
  /Kids [3 0 R]
>>
endobj
3 0 obj
<<
  /Type /Page
  /Contents 4 0 R
  /Parent 2 0 R
  /Resources <<
    /Font <<
      /F1 <<
        /Type /Font
        /Subtype /Type1
        /BaseFont /Arial
      >>
    >>
  >>
endobj
```

BODY

```
010: 1 0 obj
<<
  /Pages 2 0 R
>>
endobj
047: 2 0 obj
<<
  /Type /Pages
  /Count 1
  /Kids [3 0 R]
>>
endobj
111: 3 0 obj
<<
  /Type /Page
  /Contents 4 0 R
  /Parent 2 0 R
  /Resources <<
    /Font <<
      /F1 <<
        /Type /Font
        /Subtype /Type1
        /BaseFont /Arial
      >>
    >>
  >>
endobj
313: 4 0 obj
<< /Length 47 >>
stream
BT
/F1 110
Tf
10 400 Td
(Hello World!)Tj
ET
endstream
endobj
```

BEGIN TEXT
FONT F1 (ARIAL) SET TO SIZE 110
SELECT THIS FONT
MOVE TO COORDINATE 10, 400
OUTPUT TEXT "HELLO WORLD!"
END TEXT

FILE

```
<< /Length 47 >>
stream
BT
/F1 110
Tf
10 400 Td
(Hello World!)Tj
ET
endstream
endobj
xref
0 5
0000000000 65535 f
0000000010 00000 n
0000000047 00000 n
0000000111 00000 n
0000000313 00000 n
trailer
<<
  /Root 1 0 R
>>
startxref
416
%%EOF
```

XREF TABLE

```
416: xref
0 5
0000000000 65535 f
0000000010 00000 n
0000000047 00000 n
0000000111 00000 n
0000000313 00000 n
```

CROSS REFERENCES
5 OBJECTS, STARTING AT INDEX 0
(STANDARD FIRST EMPTY OBJECT 0
OFFSET TO OBJECT 1, REV 0
TO OBJECT 2...
3...
4

TRAILER

```
trailer
<<
  /Root 1 0 R
>>
startxref
416
%%EOF
```

BASICS

PDF IS TEXT BASED, WITH BINARY STREAMS

TYPES

0: STRING
EX: (Hello World!)
/NAME (IDENTIFIERS)
EX: /Count 1
<<>: DICTIONARY
EX: <</key1 value1 /key2 value2>>
[]: ARRAY
EX: [0 1 2 3 4]

OBJECT REFERENCES

CONTENT IS STORED IN OBJECT
MOST CONTENT CAN BE INLINED OR REFERENCED IN A SEPARATE OBJECT

/Key1 value IS EQUIVALENT TO /Key1 3 0 R
[...]
3 0 obj
value
endobj

BINARY STREAMS

BINARY STREAM ARE STORED IN SEPARATE OBJECTS LIKE THIS:

```
<object number> <object revision> obj
<< -STREAM.METADATA- >>
stream
<STREAM CONTENT>
endstream
endobj
```

TRIVIA

THE PDF WAS FIRST SPECIFIED BY ADOBE SYSTEMS IN 1993

INITIAL VERSIONS OF ADOBE ACROBAT WERE NOT FREE

FILE STRUCTURE

HEAD OF THE FILE

THE "%PDF-" SIGNATURE IDENTIFIES THE FORMAT AND REQUIRED VERSION

XREF

xref
<STARTING OBJECT> <OBJECT COUNT>
FOLLOWED BY XREF ENTRIES:
IF (OBJECT IN USE)
<OFFSET:10> <GENERATION:5> n
ELSE
<NEXT_FREE_OBJECT:10> <GENERATION:5> f

END OF THE FILE

startxref
<XREF OFFSET IN DECODED STREAM>
%%EOF

PARSING

THE HEADER %PDF-1.? SIGNATURE IS CHECKED TO IDENTIFY THE FILE FORMAT
THE XREF IS LOCATED VIA THE startxref OFFSET
THE xref TABLE GIVES OFFSET OF EACH OBJECT
THE trailer IS PARSED
EACH OBJECT REFERENCE IS FOLLOWED, BUILDING THE DOCUMENT
PAGES ARE CREATED, TEXT IS RENDERED

