

PDF ToUnicode Cmap

The ToUnicode Cmap map for each glyph the associated unicode character. If you open with an hex editor a pdf file you can see this:

```
20 5D 0A 2F 46 6F 6E 74 44 65 73 63 72 69 70 74 6F 72 20 37 20 | 277 ]./FontDescriptor 7
2F 54 6F 55 6E 69 63 6F 64 65 20 38 20 30 20 52 0A 3E 3E 0A 65 | 0 R./ToUnicode 8 0 R.>>.e
6A 0A 0A 31 30 20 30 20 6F 62 6A 0A 3C 3C 2F 46 31 20 39 20 30 | ndobj..10 0 obj.<</F1 9 0
```

Pay attention, not always there is the ToUnicode Cmap.

Highlighted in green there is the signature to say where is the Cmap. The next bytes (x38x20x30x20) are a resource id.

Search with the hex editor the resource id and you will find something like this:

```
6F 62 6A 0A 0A 38 20 30 20 6F 62 6A 0A 3C 3C 2F 4C 65 6E | obj.[.8 0 obj.<</Len
67 74 68 20 32 34 30 2F 46 69 6C 74 65 72 2F 46 6C 61 74 | gth 240/Filter/Flat
65 44 65 63 6F 64 65 3E 3E 0A 73 74 72 65 61 6D 0A 78 9C | eDecode>>.stream.x.
5D 50 CB 6A C3 30 10 BC EB 2B F6 98 1C 82 6C C7 69 2F 46 | ]P.j.0...+....l.i/F
10 12 02 3E F4 41 DD 7E 80 2C AD 5D 41 2D 09 59 3E F8 EF | ...>.A.~.,.]A-.Y>..
BB 92 D3 16 7A 90 98 61 76 86 D9 E5 97 F6 DA 5A 13 F9 6B | ....z..av.....Z..k
70 AA C3 08 83 B1 3A E0 EC 96 A0 10 7A 1C 8D 65 65 05 DA | p.....:.....z..ee..
A8 78 67 F9 57 93 F4 8C 93 B7 5B E7 88 53 6B 07 D7 34 8C | .xg.W.....[.Sk..4.
BF 91 36 C7 B0 C2 EE AC 5D 8F 7B C6 5F 82 C6 60 EC 08 BB | ..6.....].{._..`...
8F 4B 47 BC 5B BC FF C2 09 6D 84 82 09 01 1A 07 CA 79 92 | .KG.[....m.....y.
FE 59 4E C8 B3 EB D0 6A 92 4D 5C 0F 64 F9 1B 78 5F 3D 42 | .YN....j.M\d..x_=B
95 79 B9 55 51 4E E3 EC A5 C2 20 ED 88 AC 29 0A 01 CD ED | .y.UQN.... )....
26 18 5A FD 4F AB 37 47 3F A8 4F 19 68 B2 A4 C9 A2 38 D5 | &.Z.O.7G?.O.h....8.
82 70 95 F1 C3 29 E1 63 C6 8F C7 84 EB 0D D7 39 EF EE 4C | .p...).c.....9..L
C9 69 F5 9F C6 A0 96 10 A8 6D BE 4F AE 99 0A 1A 8B BF 27 | .i.....m.O.....'
F4 CE 27 57 7E DF B7 97 74 62 0A 65 6E 64 73 74 72 65 61 | ..'W~...tb.endstrea
6D 0A 65 6E 64 6F 62 6A 0A 0A 39 20 30 20 6F 62 6A 0A 3C | m.endobj..9 0 obj.<
```

Highlighted in red you can see the compressed Cmap.

If you decompress these bytes you will obtain this plain text:

```
/CIDInit/ProcSet findresource begin
12 dict begin
begincmap
/CIDSystemInfo<<
/Registry (Adobe)
/Ordering (UCS)
/Supplement 0
>> def
/CMapName/Adobe-Identity-UCS def
/CMapType 2 def
1 begincodespacerange
<00> <FF>
endcodespacerange
4 beginbfchar
<01> <0054>
<02> <0065>
<03> <0073>
<04> <0074>
endbfchar
endcmap
CMapName currentdict /CMap defineresource pop
end
end
```

Below *beginbfchar* there are the glyphs associated with their unicode characters.

Replace:

<01> <0054>

with:

<01> <0042>

and save. 0x54 is the T and 0x42 is the B. If you compress the Cmap and put it into the pdf, when you'll copy the text inside the pdf ('Test') you'll get 'Best'.