

This writeup is for the picoCTF challenge `convertme.py`

The challenge gives you 100 points

As you can see, we are provided a python script, and it tells us to convert the given number from decimal to binary to get the flag.

`convertme.py` 

 | 100 points 

Tags: Beginner picoMini 2022 General Skills base Python

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Description

Run the Python script and convert the given number from decimal to binary to get the flag.

[Download Python script](#)

Hints 

1 2 3 4 5 6

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 picoCTF{FLAG}

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I found 2 ways of doing this. The first one is probably the intended solution, but I used the second one. The second one is faster but not the intended solution.

1. Solution

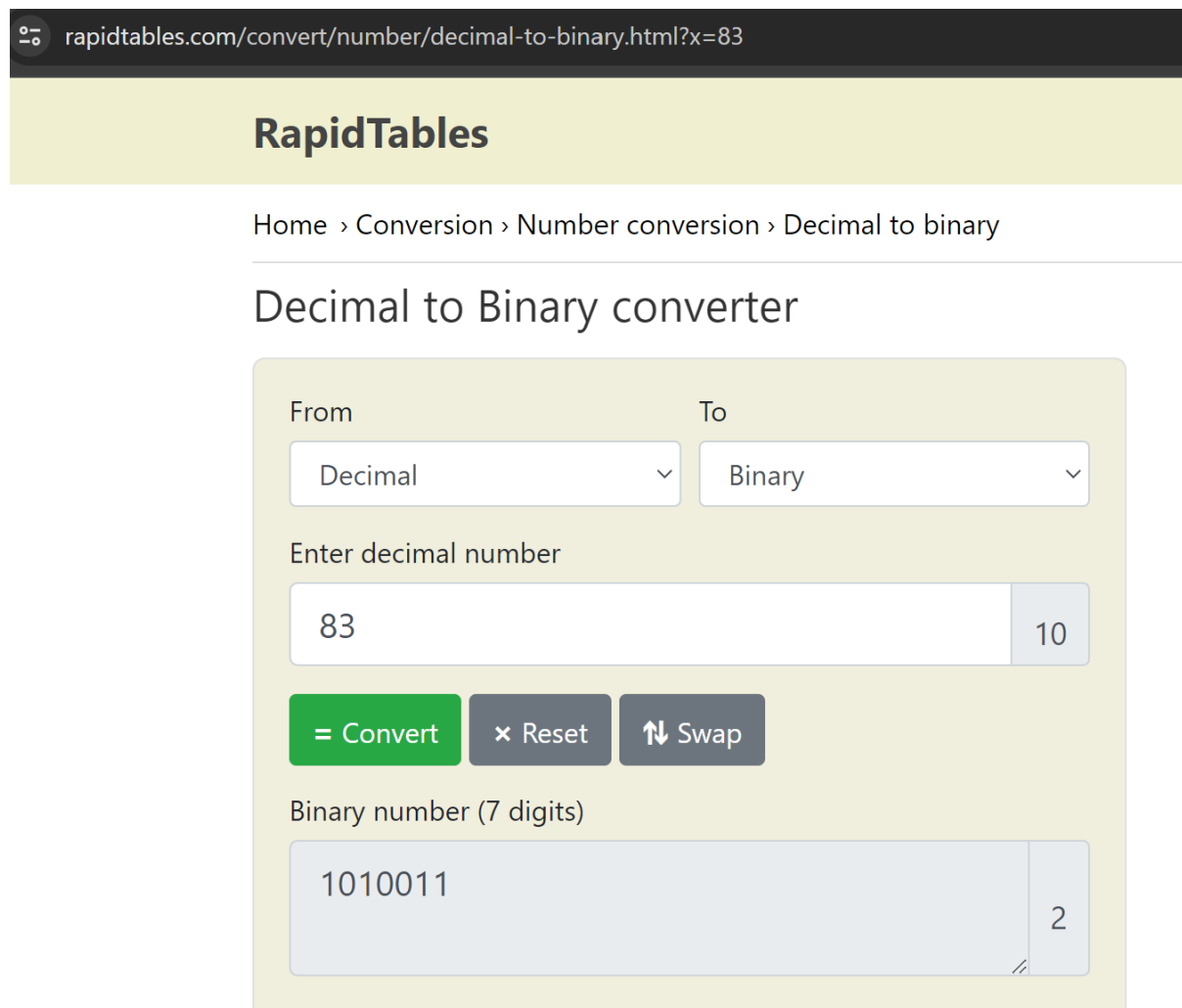
Make sure you're in the same directory as the file. If you just downloaded it, it's probably in "Downloads". If you're not in that directory, then just use the command "`cd Downloads`"

Run the script in your terminal by using the command "`python3 convertme.py`", and it should give you a number.

```
root@LAPTOP-B22FTJC2:/mnt/c/Users/Bruger/Downloads# python3 convertme.py
If 83 is in decimal base, what is it in binary base?
Answer:
```

I got the number 83, and now all you have to do, is put the number into a decimal to binary base converter.

I used RapidTables to do it.

The screenshot shows the RapidTables website's "Decimal to Binary converter" page. The URL in the browser's address bar is "rapidtables.com/convert/number/decimal-to-binary.html?x=83". The page has a yellow header with the "RapidTables" logo. Below the header is a breadcrumb trail: "Home > Conversion > Number conversion > Decimal to binary". The main heading is "Decimal to Binary converter". The converter interface is a light yellow box containing two dropdown menus labeled "From" and "To", both set to "Decimal" and "Binary" respectively. Below these is a text input field labeled "Enter decimal number" containing the value "83". To the right of the input field is a small box with the number "10". Below the input field are three buttons: a green "= Convert" button, a grey "x Reset" button, and a grey "↕ Swap" button. Below the buttons is a text label "Binary number (7 digits)" and a large light blue output field containing the binary value "1010011". To the right of the output field is a small box with the number "2".

Just put the decimal number in the box that says "Enter decimal number" and hit convert. Then just copy the binary number and paste it into the answer in the terminal and hit enter

(I got the number 30 this time)

```
If 30 is in decimal base, what is it in binary base?
Answer: 11110
That is correct! Here's your flag: picoCTF{4ll_y0ur_b4535_9c3b7d4d}
```

And there is the flag: picoCTF {4ll_y0ur_b4535_9c3b7d4d}

2. Solution (faster)

I started out by opening up the script to see what it does. Instead of showing the entire script, here is the part I figured I could change in my favor.

```
try:
    ans_num = int(ans, base=2)

    if ans_num == num:
        flag = str_xor(flag_enc, 'enkidu')
        print('That is correct! Here\'s your flag: ' + flag)
    else:
        print(str(ans_num) + ' and ' + str(num) + ' are not equal.')
```

The thing I realized here, was that you can copy the two lines after the if, and paste them into the else, so it looks like this instead:

```
if ans_num == num:
    flag = str_xor(flag_enc, 'enkidu')
    print('That is correct! Here\'s your flag: ' + flag)
else:
    flag = str_xor(flag_enc, 'enkidu')
    print('That is correct! Here\'s your flag: ' + flag)
```

What this does, is that it prints out the flag, even though you don't provide the right binary. Save and run the script in your terminal, and when it asks about the binary number, just type in a random number like this:

```
root@LAPTOP-B22FTJC2:/mnt/c/Users/Bruger/Downloads# python3 convertme.py
If 27 is in decimal base, what is it in binary base?
Answer: 1
That is correct! Here's your flag: picoCTF{4ll_y0ur_b4535_9c3b7d4d}
```

And there is the flag!

Flag: picoCTF{4ll_y0ur_b4535_9c3b7d4d}