

**Homework #8**

**01286121 Computer Programming**

**Software Engineering Program,**

**Department of Computer Engineering,**

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By

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1.

Code:

num = int(input("Enter an integer: "))

binary = ""

if num == 0:

print("It is 0.")

elif num < 0:

print("It is negative.")

else:

#integer to binary

quotient = num

while quotient > 0:

remainder = quotient % 2

binary = str(remainder) + binary

quotient //= 2

print(f"Integer to binary: {binary}")

#binary to integer

count = 0

integer = 0

for i in reversed(binary):

integer += int(i) \* (2 \*\* count)

count += 1

print(f"Binary to integer: {integer}")

Result:

A black background with white text

AI-generated content may be incorrect.

2.

Code:

string = str(input("Enter a string: "))

count = {'a': 0, 'b': 0, 'c': 0, 'd': 0, 'e': 0, 'f': 0, 'g': 0,

'h': 0, 'i': 0, 'j': 0, 'k': 0, 'l': 0, 'm': 0, 'n': 0,

'o': 0, 'p': 0, 'q': 0, 'r': 0, 's': 0, 't': 0, 'u': 0,

'v': 0, 'w': 0, 'x': 0, 'y': 0, 'z': 0}

for i in string:

if i in count:

count[i] += 1

for i in count:

if count[i] == 0:

continue

else:

percent = (count[i] / len(string)) \* 100

print(f"{i}: {percent:.2f}%")

Result:

A black screen with white text

AI-generated content may be incorrect.

3.

Code:

import turtle

string = str(input("Enter a string: "))

count = {'a': 0, 'b': 0, 'c': 0, 'd': 0, 'e': 0, 'f': 0, 'g': 0,

'h': 0, 'i': 0, 'j': 0, 'k': 0, 'l': 0, 'm': 0, 'n': 0,

'o': 0, 'p': 0, 'q': 0, 'r': 0, 's': 0, 't': 0, 'u': 0,

'v': 0, 'w': 0, 'x': 0, 'y': 0, 'z': 0}

for i in string:

if i in count:

count[i] += 1

chars\_used = 0

highest = 0

for i in count:

if count[i] == 0:

continue

else:

chars\_used += 1

if highest < count[i]:

highest = count[i]

#draw graph

corner\_x, corner\_y = turtle.xcor(), turtle.ycor()

turtle.pd()

turtle.forward(chars\_used \* 40)

turtle.pu()

turtle.goto(corner\_x, corner\_y)

turtle.left(90)

turtle.pd()

turtle.forward(highest \* 20)

turtle.pu()

turtle.goto(corner\_x, corner\_y)

turtle.right(90)

#draw graph bars

prev = 30

for i in count:

if count[i] == 0:

continue

else:

turtle.goto(prev, corner\_y - 20)

turtle.write(i)

turtle.goto(prev, corner\_y)

turtle.left(90)

turtle.pd()

turtle.forward(count[i] \* 20)

turtle.right(90)

turtle.forward(10)

turtle.right(90)

turtle.forward(count[i] \* 20)

turtle.left(90)

turtle.pu()

prev += 30

turtle.hideturtle()

turtle.done()

Result:



A graph with black lines

AI-generated content may be incorrect.

4.

Code:

ISBN\_9 = str(input("Enter the first 9 digits of an ISBN-10 number: "))

ISBN\_10th = 0

count = 1

for i in ISBN\_9:

ISBN\_10th += int(i) \* count

count += 1

ISBN\_10 = ISBN\_9

if ISBN\_10th % 11 == 10:

ISBN\_10 += "X"

else:

ISBN\_10 += str(ISBN\_10th % 11)

print(f"Your ISBN-10 number is {ISBN\_10}")

Result:



