



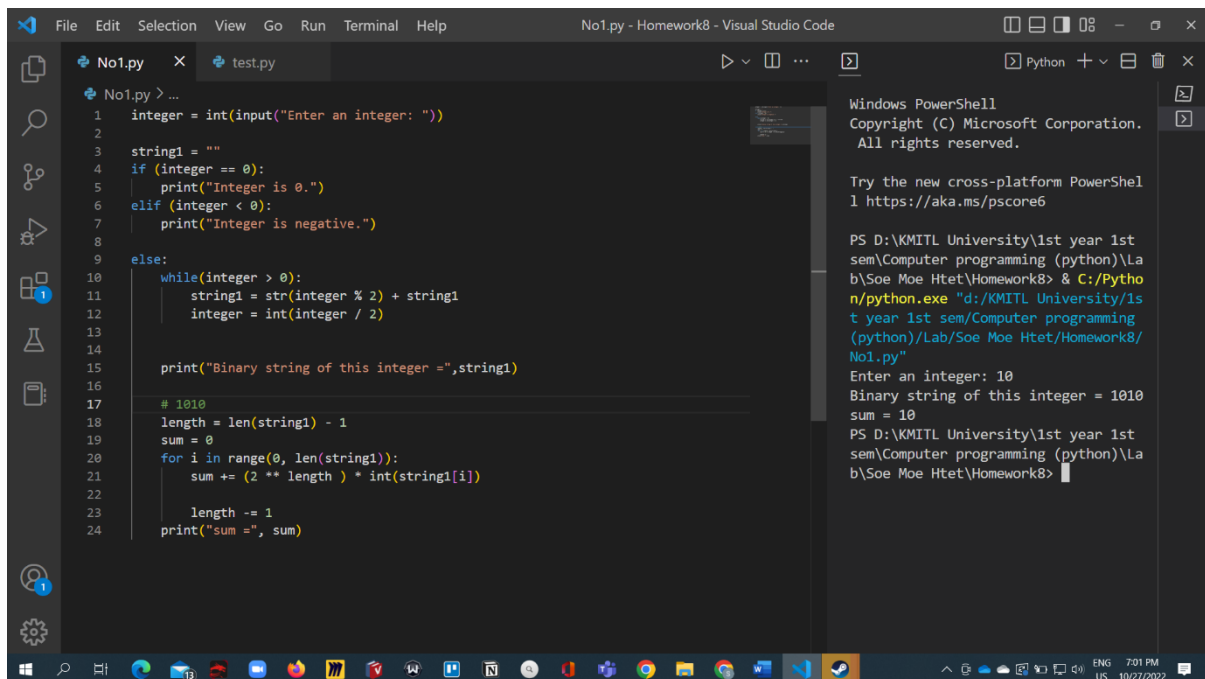
Homework # 8

**01286121 Computer Programming
Software Engineering Program,
Department of Computer Engineering,
School of Engineering, KMITL**

By

65011693 Soe Moe Htet

No.1

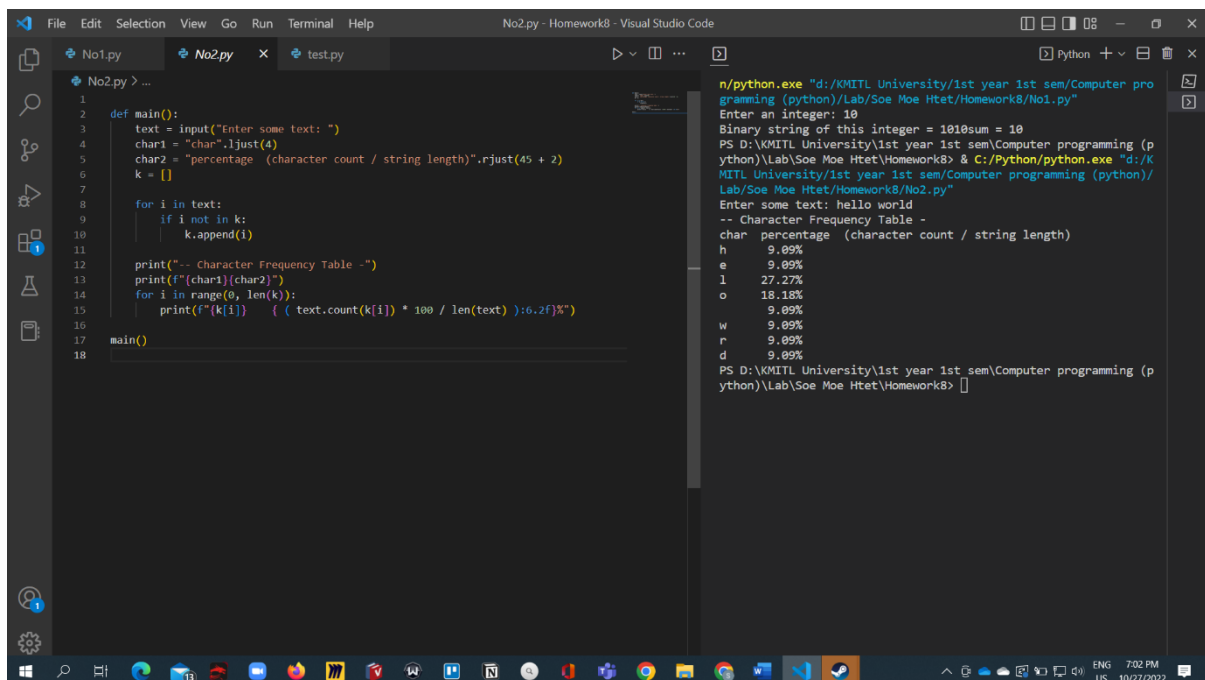


```
File Edit Selection View Go Run Terminal Help No1.py - Homework8 - Visual Studio Code
No1.py x test.py
No1.py > ...
1 integer = int(input("Enter an integer: "))
2
3 string1 = ""
4 if (integer == 0):
5     print("Integer is 0.")
6 elif (integer < 0):
7     print("Integer is negative.")
8
9 else:
10    while(integer > 0):
11        string1 = str(integer % 2) + string1
12        integer = int(integer / 2)
13
14    print("Binary string of this integer =",string1)
15
16    # 1010
17    length = len(string1) - 1
18    sum = 0
19    for i in range(0, len(string1)):
20        sum += (2 ** length ) * int(string1[i])
21
22        length -= 1
23    print("sum =", sum)
24
Windows PowerShell
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Try the new cross-platform PowerShell
1 https://aka.ms/pscore6

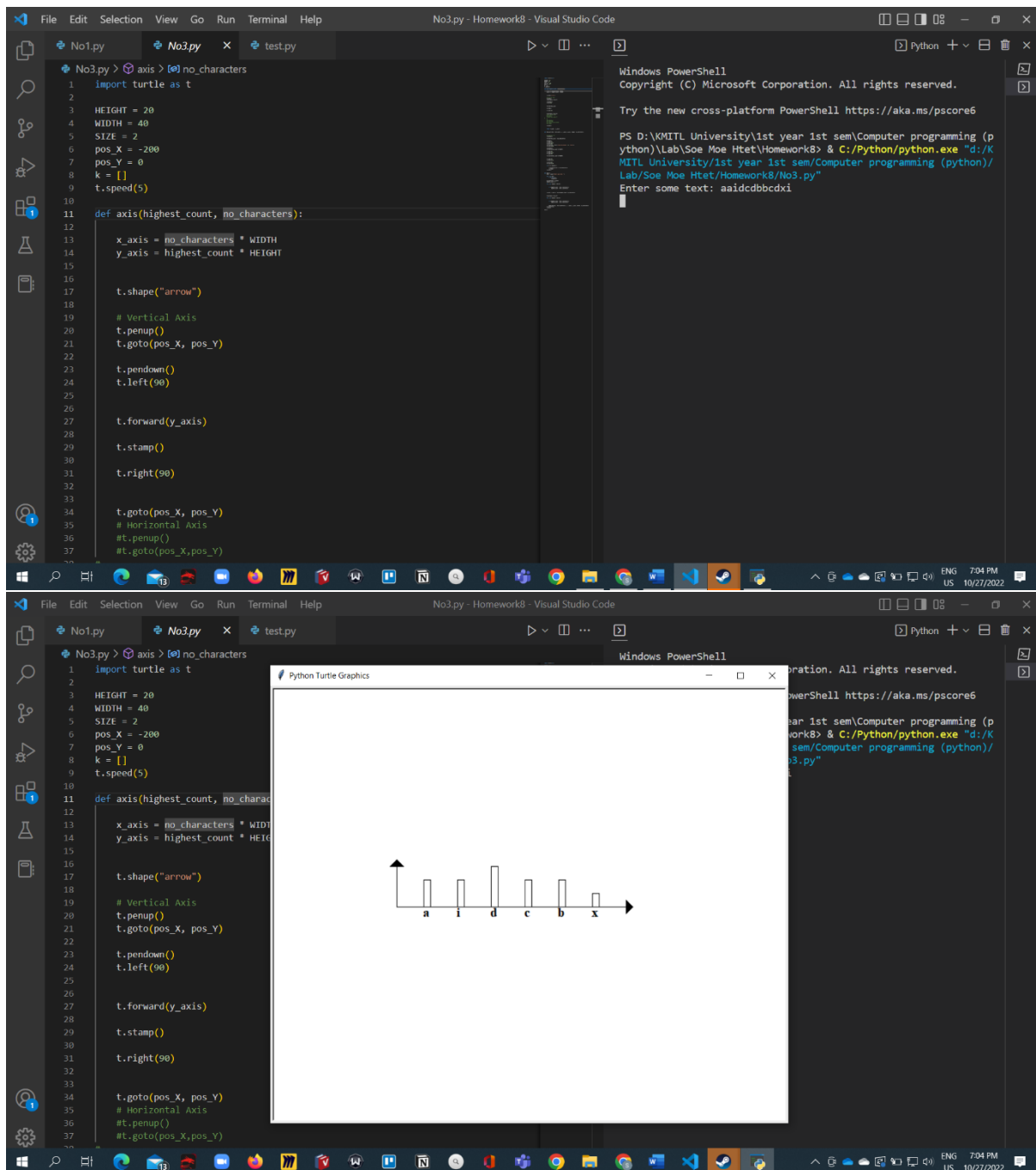
PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8> & C:/Python/python.exe "d:/KMITL University/1st year 1st sem/Computer programming (python)/Lab/Soe Moe Htet/Homework8/No1.py"
Enter an integer: 10
Binary string of this integer = 1010
sum = 10
PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8>
```

No.2



```
File Edit Selection View Go Run Terminal Help No2.py - Homework8 - Visual Studio Code
No1.py No2.py x test.py
No2.py > ...
1 def main():
2     text = input("Enter some text: ")
3     char1 = "char".ljust(4)
4     char2 = "percentage (character count / string length)".rjust(45 + 2)
5     k = []
6
7     for i in text:
8         if i not in k:
9             k.append(i)
10
11    print("-- Character Frequency Table --")
12    print(f"{char1}{char2}")
13    for i in range(0, len(k)):
14        print(f"{k[i]} { ( text.count(k[i]) * 100 / len(text) ):0.2f}%")
15
16    main()
17
18
n/python.exe "d:/KMITL University/1st year 1st sem/Computer programming (python)/Lab/Soe Moe Htet/Homework8/No1.py"
Enter an integer: 10
Binary string of this integer = 1010sum = 10
PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8> & C:/Python/python.exe "d:/KMITL University/1st year 1st sem/Computer programming (python)/Lab/Soe Moe Htet/Homework8/No2.py"
Enter some text: hello world
-- Character Frequency Table --
char percentage (character count / string length)
h 9.09%
e 9.09%
l 27.27%
o 18.18%
9.09%
w 9.09%
r 9.09%
d 9.09%
PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8>
```

No.3



Code

```
import turtle as t

HEIGHT = 20
WIDTH = 40
SIZE = 2
pos_X = -200
pos_Y = 0
k = []
t.speed(5)
```

```

def axis(highest_count, no_characters):

    x_axis = no_characters * WIDTH
    y_axis = highest_count * HEIGHT

    t.shape("arrow")

    # Vertical Axis
    t.penup()
    t.goto(pos_X, pos_Y)

    t.pendown()
    t.left(90)

    t.forward(y_axis)

    t.stamp()

    t.right(90)

    t.goto(pos_X, pos_Y)
    # Horizontal Axis
    #t.penup()
    #t.goto(pos_X, pos_Y)
#
#
#t.pendown()
#t.right(90)
#t.forward(x_axis*SIZE)
#t.stamp()

    t.penup()

    return (x_axis , y_axis)

def draw_bar(char, text_count, i, x_axis, y_axis, length, no_characters):

    # Character bar
    t.pendown()

    t.forward(x_axis / (no_characters))

    t.penup()
    t.right(90)
    t.forward(20)
    t.left(180)
    t.write(char, font=("Times New Roman", 15, "bold"))
    t.forward(20)

    t.pendown()
    t.forward(text_count * HEIGHT)

```

```

t.right(90)
t.forward(10)
t.right(90)

t.forward(text_count * HEIGHT)

t.right(90)
t.forward(10)

t.left(180)
t.forward(10)

if (i == length-1):

    t.forward(x_axis / (no_characters))
    t.stamp()
t.penup()

def main():
    text = input("Enter some text: ")

    for i in text:
        if i not in k:
            k.append(i)

    no_characters = len(k)
    highest_count = 0

    for i in range(0, len(k)):

        if (highest_count < text.count(k[i])):
            highest_count = text.count(k[i])

    (x_axis, y_axis) = axis(highest_count, no_characters)

    t.goto(pos_X, pos_Y)

    for i in range(0, len(k)):

        if (highest_count < text.count(k[i])):
            highest_count = text.count(k[i])

        draw_bar(k[i], text.count(k[i]), i, x_axis, y_axis, len(k), no_characters)
    t.hideturtle()
    t.done()

main()

```

No.4

The image shows a Visual Studio Code editor window with a Python file named `No4.py` and a PowerShell terminal window.

Python Code (No4.py):

```
1 digits = input("Enter the first 9 digits of an ISBN-10 as a string: ")
2 sum = 0
3
4 for i in range(0, len(digits)):
5     sum += int(digits[i]) * (i+1)
6
7 checksum = sum % 11
8
9 if (checksum == 10):
10     digits += "X"
11     print("Your ISBN-10 number is", digits)
12
13 else:
14     digits += str(checksum)
15     print("Your ISBN-10 number is", digits)
```

PowerShell Terminal:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8> & C:/Python/python.exe "d:/KMITL University/1st year 1st sem/Computer programming (python)/Lab/Soe Moe Htet/Homework8/No4.py"
Enter the first 9 digits of an ISBN-10 as a string: 013601267
Your ISBN-10 number is 0136012671
PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8> & C:/Python/python.exe "d:/KMITL University/1st year 1st sem/Computer programming (python)/Lab/Soe Moe Htet/Homework8/No4.py"
Enter the first 9 digits of an ISBN-10 as a string: 013031997X
Your ISBN-10 number is 013031997X
PS D:\KMITL University\1st year 1st sem\Computer programming (python)\Lab\Soe Moe Htet\Homework8>
```

The taskbar at the bottom shows the Windows taskbar with various application icons and the system clock displaying 7:07 PM on 10/27/2022.