



আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম
الجامعة الإسلامية العالمية شيتاغونغ
International Islamic University Chittagong

LAB REPORT

COURSE TITLE : Programming with Python

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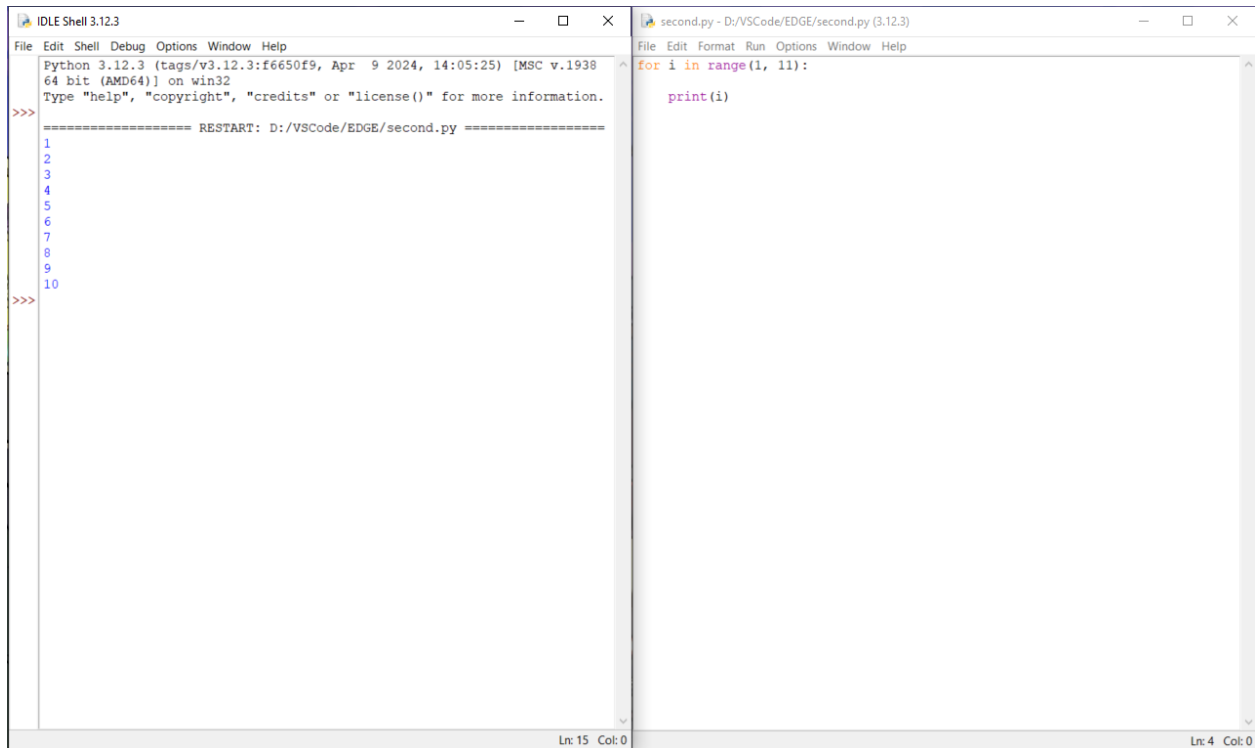
SEMESTER : 4th

DEPARTMENT : Computer Science and Engineering

DATE OF SUBMISSION : 16th December, 2024.

REMARK:

1. Practice-1: Print the first 10 numbers using the for loop.



The image shows two side-by-side windows from a Python development environment. The left window is titled 'IDLE Shell 3.12.3' and displays the output of a Python script. It shows the Python version (3.12.3), architecture (64 bit), and operating system (win32). Below this, it indicates a restart of the script. The output consists of the numbers 1 through 10, each on a new line. The right window is titled 'second.py - D:/VSCode/EDGE/second.py (3.12.3)' and shows the source code for the script. The code is a for loop that iterates from 1 to 10, printing each value of 'i'.

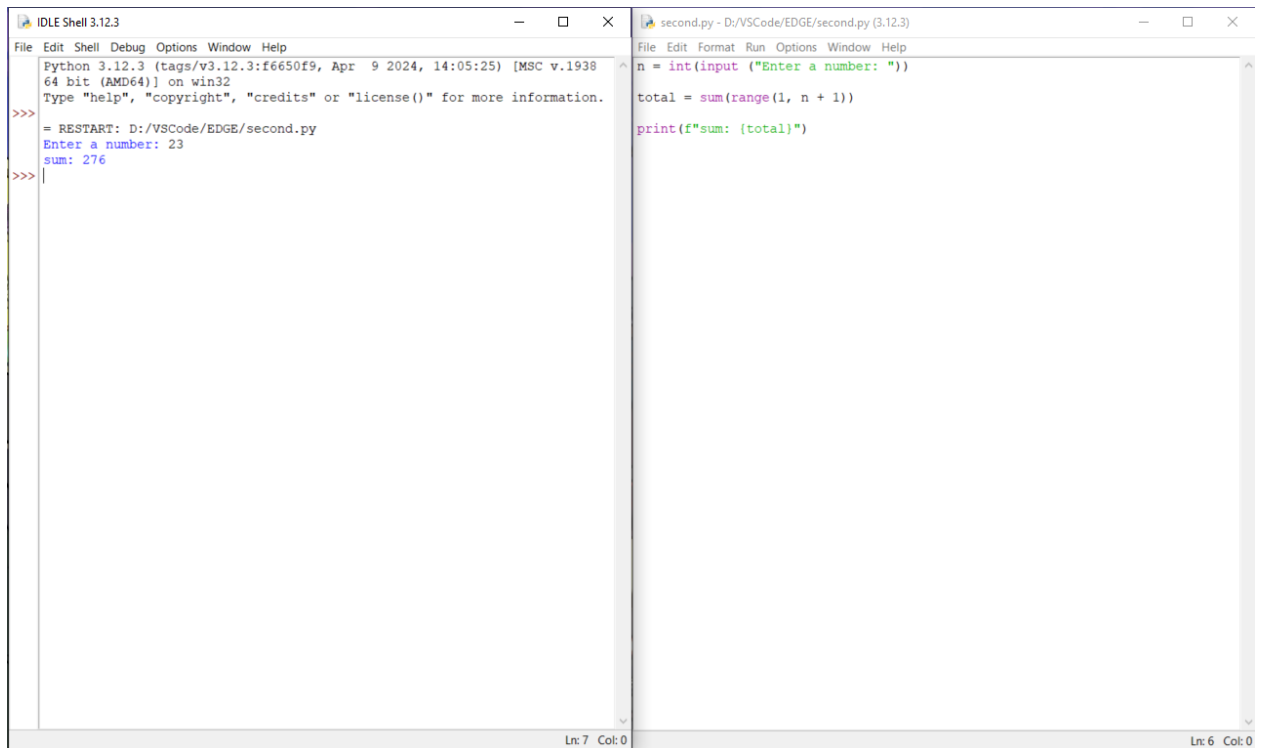
```
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938  
64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>>  
===== RESTART: D:/VSCode/EDGE/second.py =====  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
>>>
```

```
for i in range(1, 11):  
    print(i)
```

Ln: 15 Col: 0

Ln: 4 Col: 0

2. Practice-2: Write a program to calculate the sum of all numbers from 1 to n , where n is entered by the user.



The image shows two side-by-side windows. The left window is titled 'IDLE Shell 3.12.3' and displays the output of a Python program. The right window is titled 'second.py - D:/VSCoDe/EDGE/second.py (3.12.3)' and displays the source code of the program.

Left Window (IDLE Shell 3.12.3):

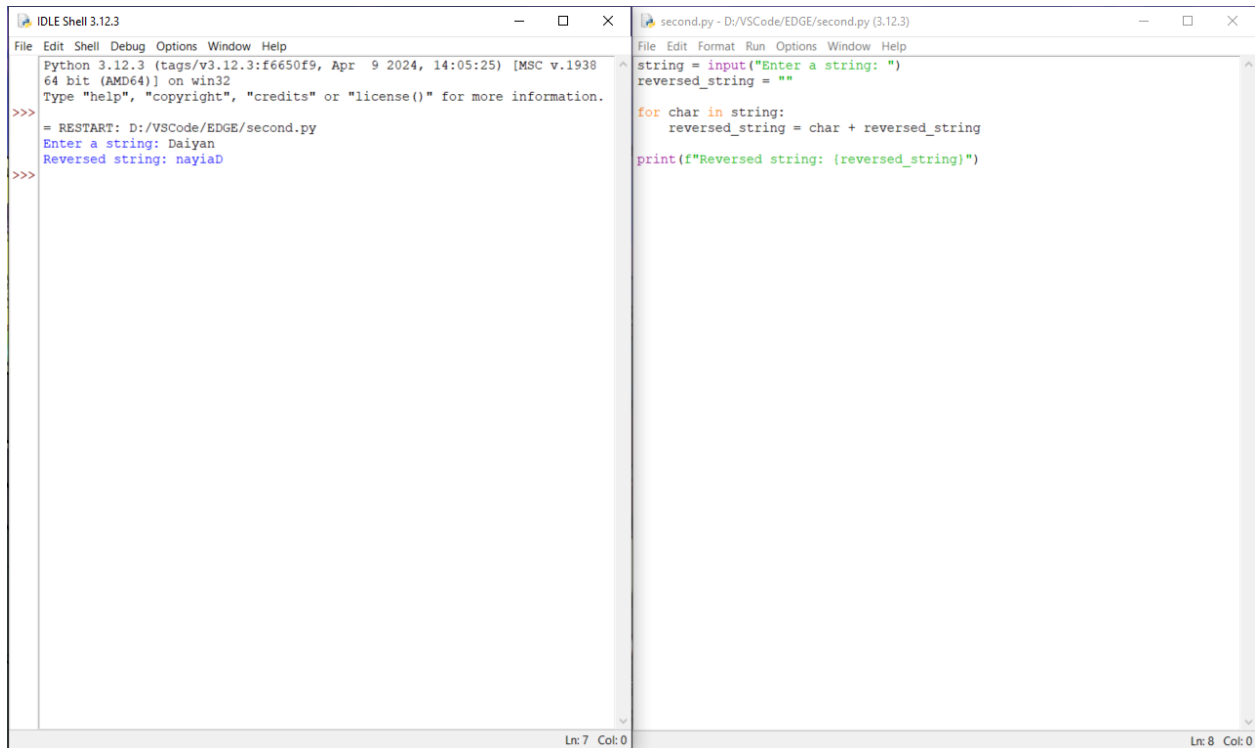
```
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938  
64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>>  
= RESTART: D:/VSCoDe/EDGE/second.py  
Enter a number: 23  
sum: 276  
>>>
```

Right Window (second.py):

```
n = int(input("Enter a number: "))  
total = sum(range(1, n + 1))  
print(f"sum: {total}")
```

The status bar at the bottom of the left window shows 'Ln: 7 Col: 0'. The status bar at the bottom of the right window shows 'Ln: 6 Col: 0'.

3. Practice-3: Create a program to reverse a string using a loop.



The image shows two side-by-side windows from an IDE. The left window is titled 'IDLE Shell 3.12.3' and displays the output of a Python script. The right window is titled 'second.py - D:/VSCode/EDGE/second.py (3.12.3)' and shows the source code of the script.

Left Window (IDLE Shell 3.12.3):

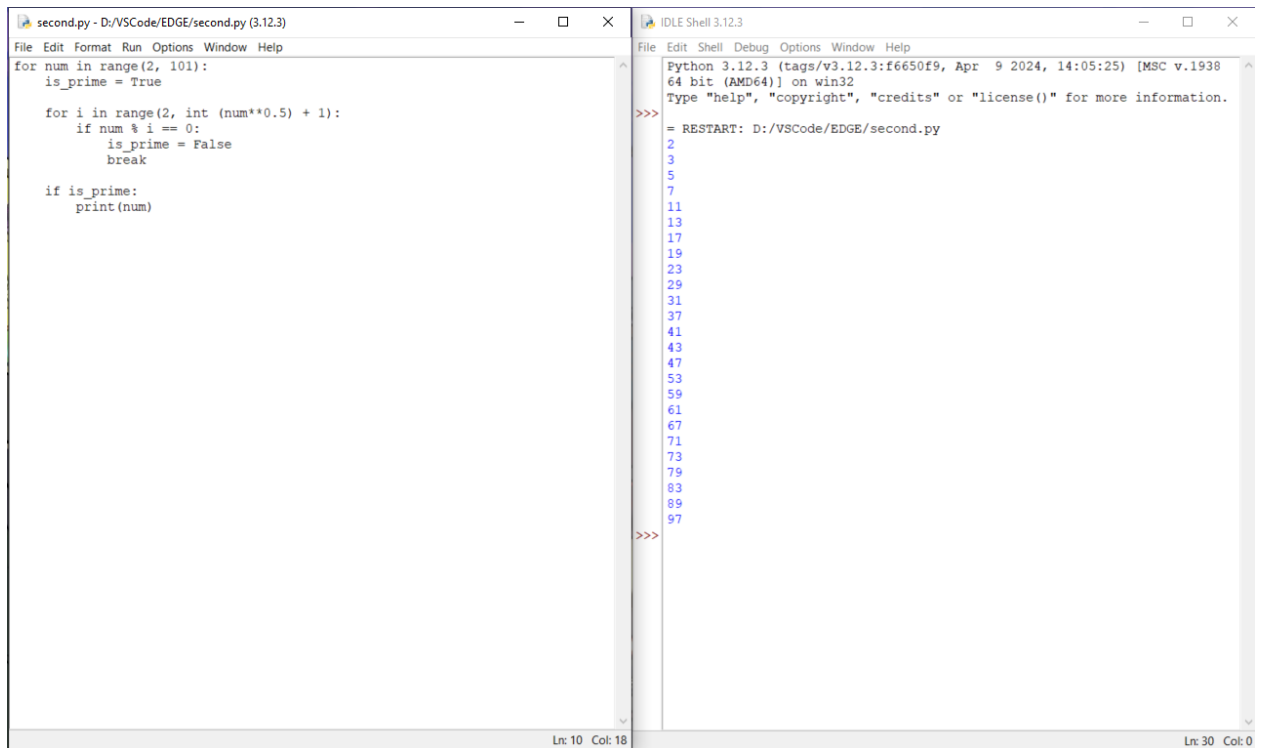
```
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938  
64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>>  
= RESTART: D:/VSCode/EDGE/second.py  
Enter a string: Daiyan  
Reversed string: nayiaD  
>>>
```

Right Window (second.py):

```
string = input("Enter a string: ")  
reversed_string = ""  
  
for char in string:  
    reversed_string = char + reversed_string  
  
print(f"Reversed string: {reversed_string}")
```

The status bar at the bottom of the left window shows 'Ln: 7 Col: 0' and the status bar at the bottom of the right window shows 'Ln: 8 Col: 0'.

4. Practice-4: Write a program to print all the prime numbers between 1 and 100.



The image shows a screenshot of a Python IDE with two panels. The left panel displays a Python script named `second.py` that implements a prime number checking algorithm. The script iterates through numbers from 2 to 101, checking for divisibility by numbers up to the square root of the current number. If a number is prime, it is printed. The right panel shows the output of the program, which is a list of prime numbers from 2 to 97. The output is displayed in a monospaced font, with each number on a new line. The status bar at the bottom of the IDE shows the current line and column numbers for both panels.

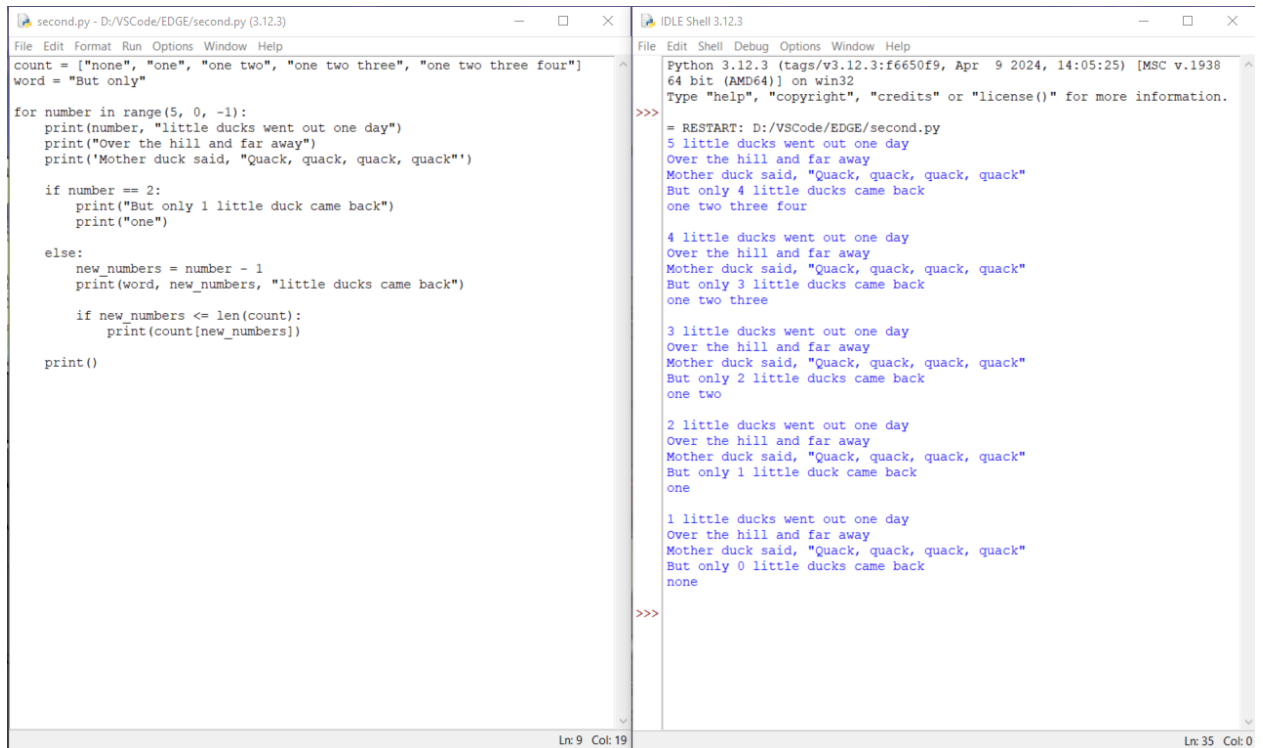
```
second.py - D:/VSCode/EDGE/second.py (3.12.3)
File Edit Format Run Options Window Help
for num in range(2, 101):
    is_prime = True
    for i in range(2, int (num**0.5) + 1):
        if num % i == 0:
            is_prime = False
            break
    if is_prime:
        print(num)
```

```
IDLE Shell 3.12.3
File Edit Shell Debug Options Window Help
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: D:/VSCode/EDGE/second.py
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97
>>>
```

Ln: 10 Col: 18

Ln: 30 Col: 0

5. Class practice:



The image shows a side-by-side comparison of a Python script in a VS Code editor and its execution output in an IDLE Shell. The script on the left is a recursive function that prints the lyrics of the song '5 Little Ducks'. It uses a list 'count' to track the number of ducks and a 'word' variable to store the lyrics for each iteration. The output on the right shows the program running from 5 ducks down to 0, with the lyrics printed for each step.

```
second.py - D:/VSCode/EDGE/second.py (3.12.3)
File Edit Format Run Options Window Help
count = ["none", "one", "one two", "one two three", "one two three four"]
word = "But only"

for number in range(5, 0, -1):
    print(number, "little ducks went out one day")
    print("Over the hill and far away")
    print('Mother duck said, "Quack, quack, quack, quack"')

    if number == 2:
        print("But only 1 little duck came back")
        print("one")

    else:
        new_numbers = number - 1
        print(word, new_numbers, "little ducks came back")

        if new_numbers <= len(count):
            print(count[new_numbers])

print()
```

```
IDLE Shell 3.12.3
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938
64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: D:/VSCode/EDGE/second.py
5 little ducks went out one day
Over the hill and far away
Mother duck said, "Quack, quack, quack, quack"
But only 4 little ducks came back
one two three four

4 little ducks went out one day
Over the hill and far away
Mother duck said, "Quack, quack, quack, quack"
But only 3 little ducks came back
one two three

3 little ducks went out one day
Over the hill and far away
Mother duck said, "Quack, quack, quack, quack"
But only 2 little ducks came back
one two

2 little ducks went out one day
Over the hill and far away
Mother duck said, "Quack, quack, quack, quack"
But only 1 little duck came back
one

1 little ducks went out one day
Over the hill and far away
Mother duck said, "Quack, quack, quack, quack"
But only 0 little ducks came back
none
>>>
```

Ln: 9 Col: 19 Ln: 35 Col: 0