

2020 - ESS 112 Programming in Python

Assignment 2

December 2020

Instructions to submit the assignment:

- Answer **all** the theory questions in a text file and name it “theory.txt”.
- For every coding question, write your program in a separate file and name it as *question_num.py*. For question 2, name it “**2.py**”.
- Make a submission folder and put theory.txt and all the python files inside it.
- Name your submission folder as RollNumber_a(*assignment number*). For example, IMT2020001_a2.
- Compress your submission folder as a zip file and submit it on the LMS submission link.
- For questions that ask you to take an input, you will have to take an input from the user (terminal) and not write the input yourself.

1. Answer the following briefly:

- (a) How can we round off a number in Python?
- (b) What is the result of `bool("False")`?
- (c) What is the result of `"bag" > "apple"`?
- (d) What is the result of `10 == "10"`?
- (e) What is the difference between the operations `10 / 3` and `10 // 3`?

2. Explain the following briefly:

- (a) Main memory
- (b) Persistent memory
- (c) Difference between Syntax error and Semantic error

3. Match the following:

- | | |
|----------------------|--|
| 1. Syntax error | a) <code>'2' + 2</code> |
| 2. Type error | b) <code>x = 100/0</code> |
| 3. Runtime exception | c) <code>a = input("enter a number") print(2*a)</code> |
| 4. Semantic error | d) <code>print('hello')</code> |

4. Write a program to take an input number and check if it is odd or even.

Sample Input/Output:

Input 1:

2

Output 1:

2 is even

Input 2:

5

Output 2:

5 is odd

5. Write a program to find the largest among three integer inputs.

Sample Input/Output:

Input:

4

5

2

Output:

Largest Number: 5

6. Write a program that takes a number as an input.

If the number is divisible by 3, it should print “Fizz”.

If it is divisible by 5, it should print “Buzz”.

If it is divisible by both 3 and 5, it should print “FizzBuzz”

Otherwise, it should print the same number.

Sample Input/Output:

Input 1:

15

Output 1:

FizzBuzz

Input 2:

13

Output 2:

13

Input 3:

6

Output 3:

Fizz

7. Write a program to take a string as an input and print the length of the string.

Sample Input/Output:

Input:

python

Output:

6

8. Take the values of length and breadth of a rectangle from user and check if it is square or not.

Sample Input/Output:

Input 1:

4

4

Output 1:

Yes

Input 2:

9

6

Output 2:

No

9. A school has following rules for their grading system:

- a. Below 25 - F
- b. 25 to 45 - E
- c. 45 to 50 - D
- d. 50 to 60 - C
- e. 60 to 80 - B
- f. 80 and Above - A

where the range ' p to q ' is inclusive of p and exclusive of q .

Write a program to enter the marks and print the corresponding grade.

Sample Input/Output:

Input 1:

66

Output 1:

B

Input 2:

95

Output 2:

A

10. A student will not be allowed to sit for a certain exam if his/her attendance is less than 75%.

Write a program which take the following input from the user:

Number of classes held

Number of classes attended

And print if the student is allowed to sit for the exam or not.

Input 1:

100

95

Output 1:

Allowed

Input 2:

80

30

Output 2:

Not Allowed

Input 3:

60

45

Output 3:

Not Allowed