

TASK 2 Implement conditional, control and looping statements

Problem 1:

User is prompted to enter a guess. If the user guesses wrong then the prompt appears again until the guess is correct, on successful guess, user will get a "Well guessed!" message, and the program will exit. Write a Python program to guess a number between 1 to 9.

PROGRAM:

```
import random

def guess_number():

    # Generate a random number between 1 and 9

    target_number = random.randint(1, 9)

    while True:

        # Prompt the user to enter a guess

        user_guess = int(input("Guess a number between 1 and 9: "))

        # Check if the guess is correct

        if user_guess == target_number:

            print("Well guessed!")

            break

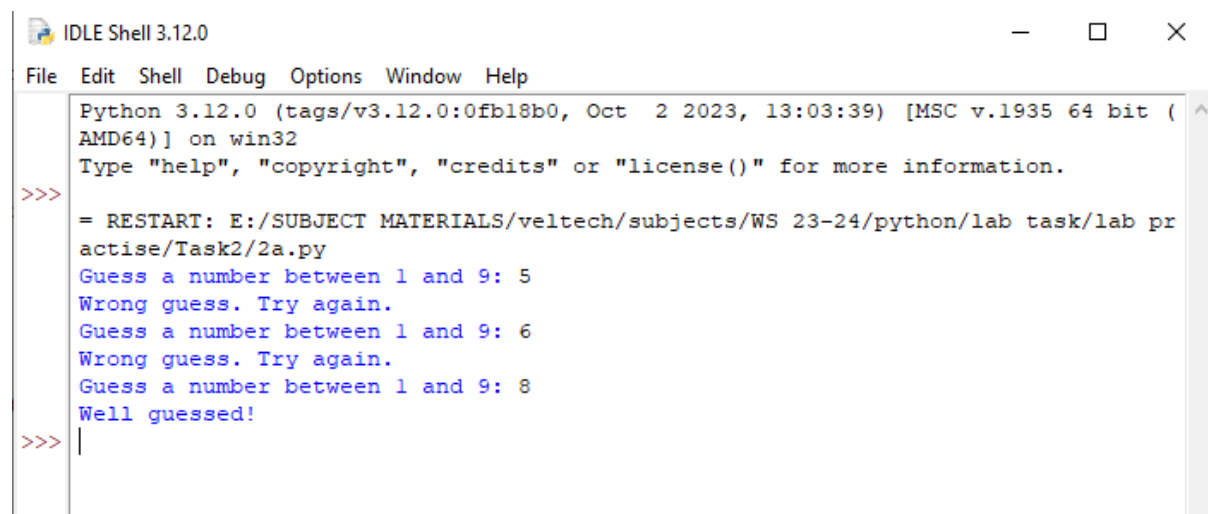
        else:

            print("Wrong guess. Try again.")

    # Call the function

guess_number()
```

OUTPUT



```
IDLE Shell 3.12.0
File Edit Shell Debug Options Window Help
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39) [MSC v.1935 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: E:/SUBJECT MATERIALS/veltech/subjects/WS 23-24/python/lab task/lab practise/Task2/2a.py
Guess a number between 1 and 9: 5
Wrong guess. Try again.
Guess a number between 1 and 9: 6
Wrong guess. Try again.
Guess a number between 1 and 9: 8
Well guessed!
>>> |
```

Problem 2:

Build a solution for the problem which iterates the integers from 1 to 50. For multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".

Sample Output :

fizzbuzz

1

2

fizz

4

PROGRAM

```
for number in range(1, 51):
```

```
    if number % 3 == 0 and number % 5 == 0:
```

```
        print("FizzBuzz")
```

```
    elif number % 3 == 0:
```

```
        print("Fizz")
```

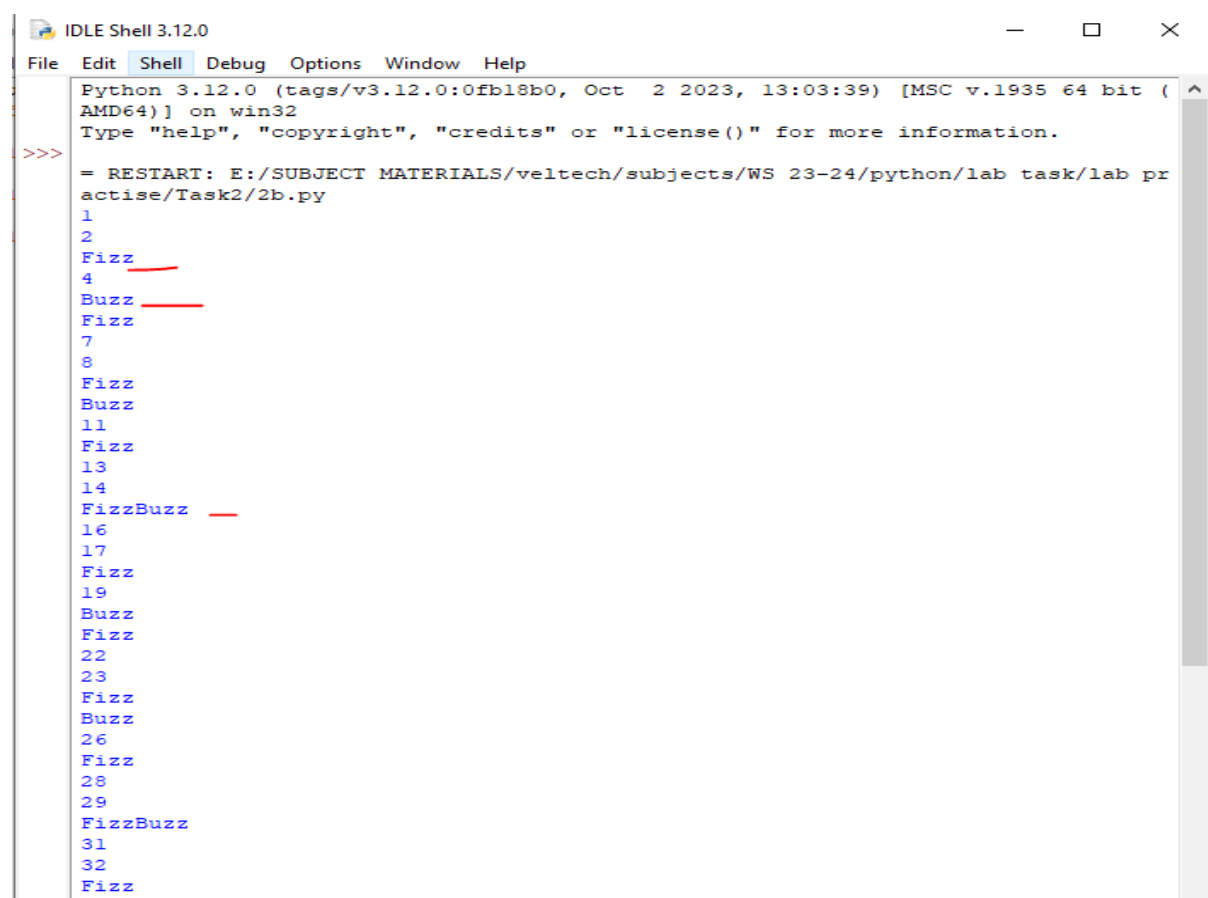
```
    elif number % 5 == 0:
```

```
        print("Buzz")
```

```
    else:
```

```
        print(number)
```

OUTPUT



```
IDLE Shell 3.12.0
File Edit Shell Debug Options Window Help
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39) [MSC v.1935 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: E:/SUBJECT MATERIALS/veltech/subjects/WS 23-24/python/lab task/lab pr
actise/Task2/2b.py
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
17
Fizz
19
Buzz
Fizz
22
23
Fizz
Buzz
26
Fizz
28
29
FizzBuzz
31
32
Fizz
..
```

Problem 3:

Keerthi wants to build a solution for the problem which accepts a sequence of comma separated 4-digit binary numbers as its input and print the numbers that are divisible by 6 in a comma separated sequence. Help Keerthi to solve this problem.

PROGRAM:

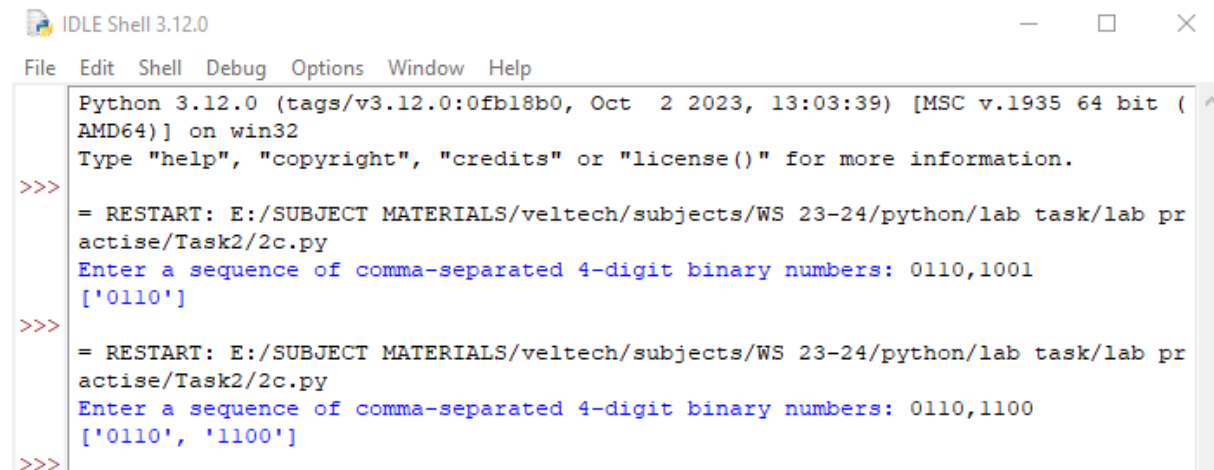
```
nums = list(input("Enter a sequence of comma-separated 4-digit binary numbers: ").split(','))
```

```
# example: 0101,1000,1001,1010
```

```
res = [i for i in nums if int(i, 2) % 6==0]
```

```
print(res)
```

OUTPUT:



```
IDLE Shell 3.12.0
File Edit Shell Debug Options Window Help
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39) [MSC v.1935 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: E:/SUBJECT MATERIALS/veltech/subjects/WS 23-24/python/lab task/lab practise/Task2/2c.py
Enter a sequence of comma-separated 4-digit binary numbers: 0110,1001
['0110']
>>>
= RESTART: E:/SUBJECT MATERIALS/veltech/subjects/WS 23-24/python/lab task/lab practise/Task2/2c.py
Enter a sequence of comma-separated 4-digit binary numbers: 0110,1100
['0110', '1100']
>>>
```

Problem 4:

Keerthi wants to build a solution for the problem to count the number of even and odd numbers from a series of numbers.

PROGRAM:

```
def count_even_odd(numbers):
```

```
    even_count = 0
```

```
    odd_count = 0
```

```
    for num in numbers:
```

```
        if num % 2 == 0:
```

```
            even_count += 1
```

```
        else:
```

```
            odd_count += 1
```

```
    return even_count, odd_count
```

```
input_numbers = input("Enter a series of numbers separated by spaces: ")
```

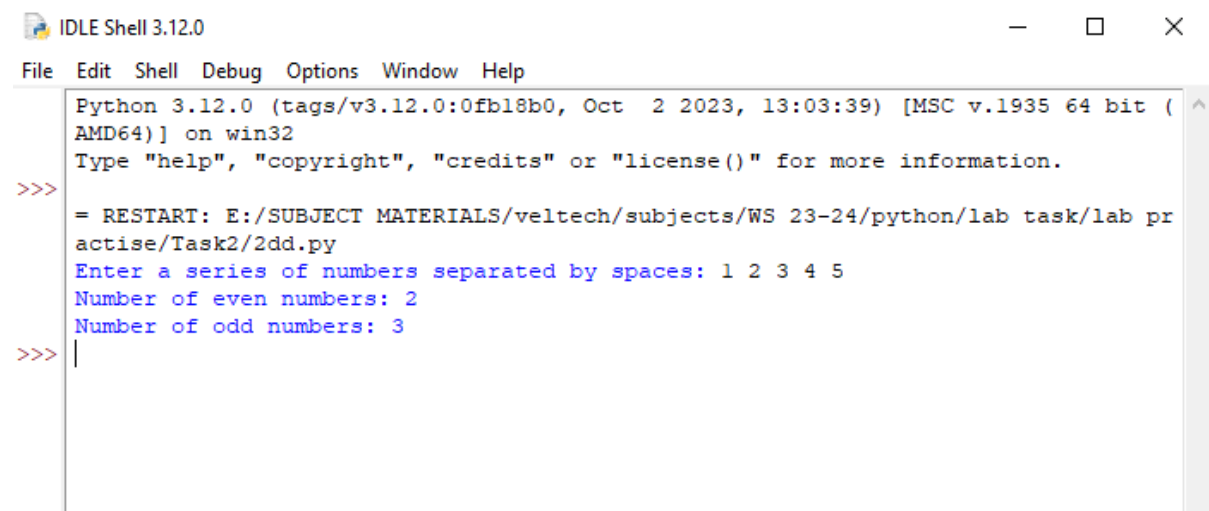
```
numbers = list(map(int, input_numbers.split()))
```

```
even_count, odd_count = count_even_odd(numbers)
```

```
print("Number of even numbers:", even_count)
```

```
print("Number of odd numbers:", odd_count)
```

OUTPUT:



```
Python 3.12.0 (tags/v3.12.0:0fb18b0, Oct 2 2023, 13:03:39) [MSC v.1935 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: E:/SUBJECT MATERIALS/veltech/subjects/WS 23-24/python/lab task/lab practise/Task2/2dd.py
Enter a series of numbers separated by spaces: 1 2 3 4 5
Number of even numbers: 2
Number of odd numbers: 3
>>> |
```