**Name: AQSA ILYAS**

**Roll No: BIT-24S-009**

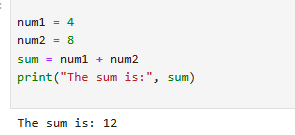
**GitHub link:** https://github.com/ilyasaqsa/Python-lab

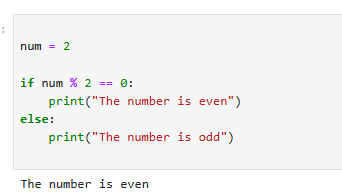
**LAB: 01**

**Task 1:**

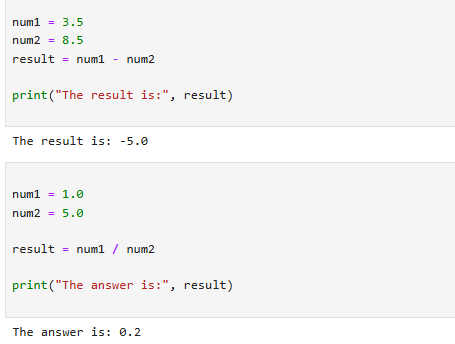
Make 2-2 programs of each datatype.

* **NUMERIC TYPES:**
* **Integer:**

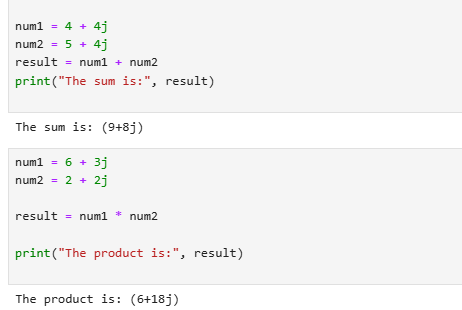
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* **Float:**

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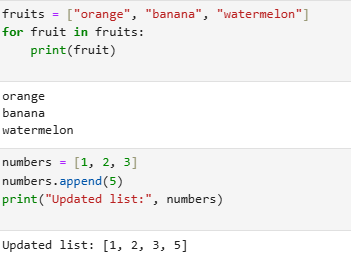
* **Complex:**

****

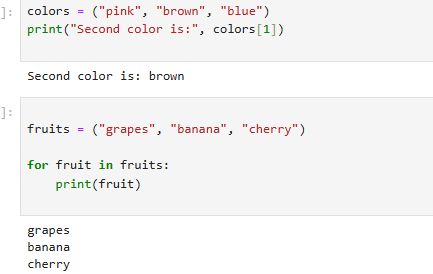
* **SEQUENCE TYPES:**
* **String**

****

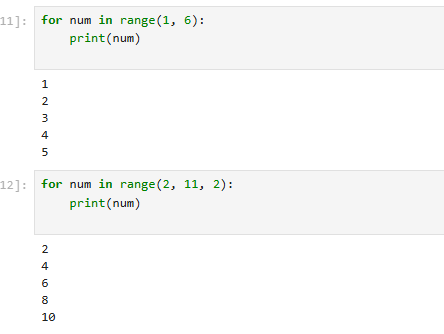
* **List:**

****

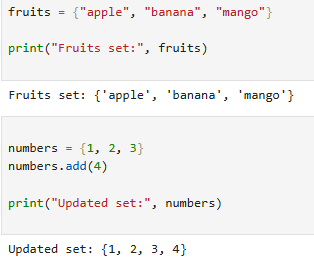
* **Tuple:**

****

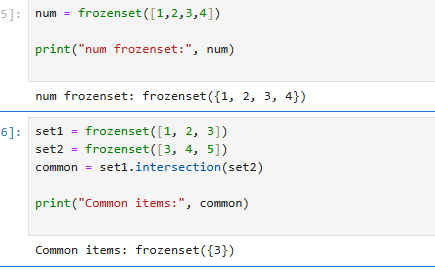
* **Range:**

****

* **SET TYPES:**
* **Set:**

****

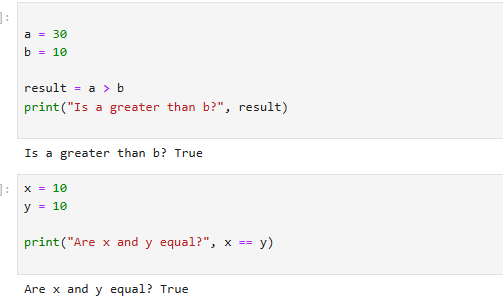
* **Frozen set:**

****

* **MAPPING TYPE:**
* **Dictionary dict:**

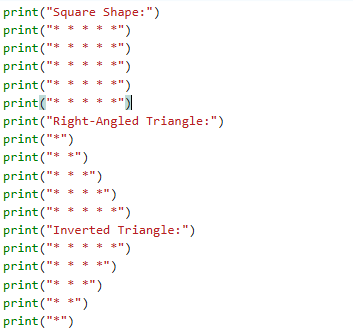
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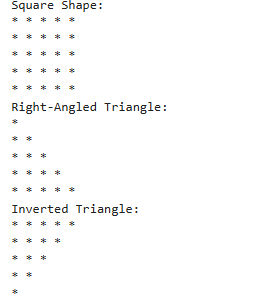
* **BOLEAN TYPE:**

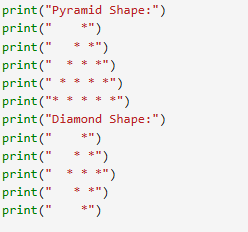
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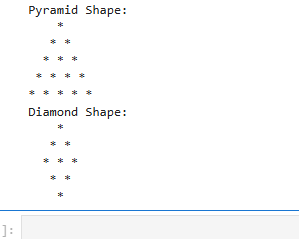
**Task 2:**

**Make up to 5 shapes programs using \***

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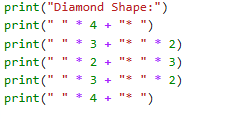
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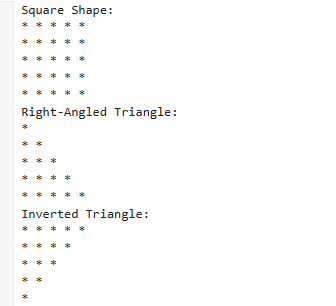
**Task 3:**

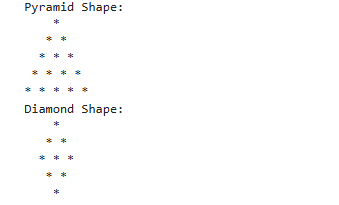
Make same shapes you have made in task 2, using \* multiple by number.

**Program:**

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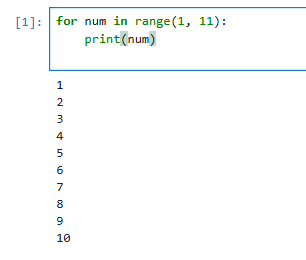
****

**Lab 2:**

**Task 1:**

Print numbers from 1 to 10 using a for loop.

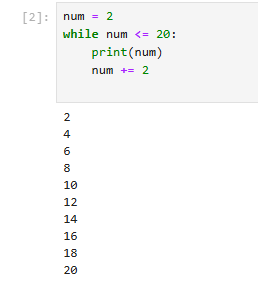
**Program:**

****

**Task 2:**

Print all even numbers between 1 and 20 using a while loop.

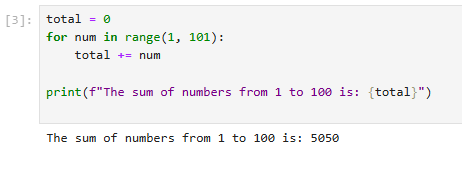
**Program:**

****

**Task 3:**

Calculate the sum of numbers from 1 to 100 using a loop.

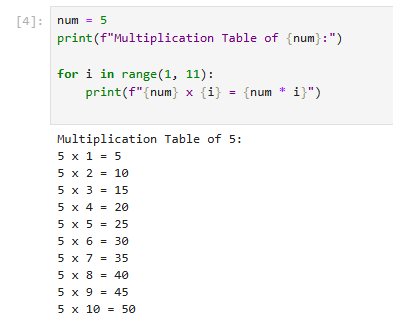
**Program:**

****

**Task 4:**

Print the multiplication table of 5 using a loop:

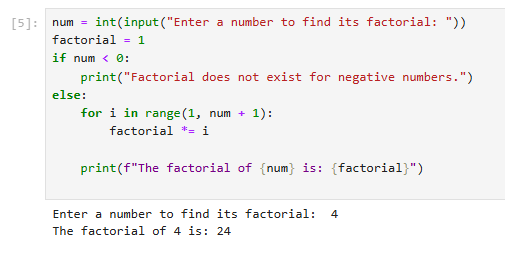
**Program:**

****

**Task 5:**

Find the factorial of a given number using a for loop.

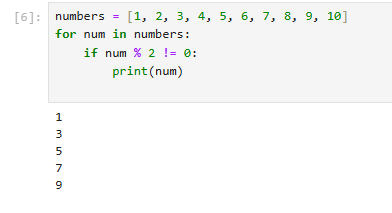
**Program:**

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**Task 6:**

Create a list of numbers and print only the odd numbers using a loop.

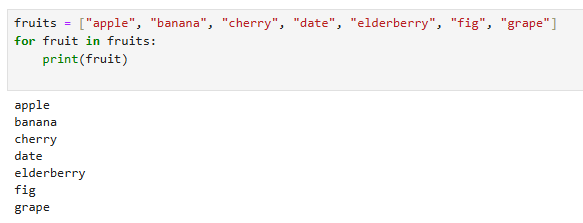
**Program:**

****

**Task 7:**

Iterate over a list of fruits and print each item.

**Program:**

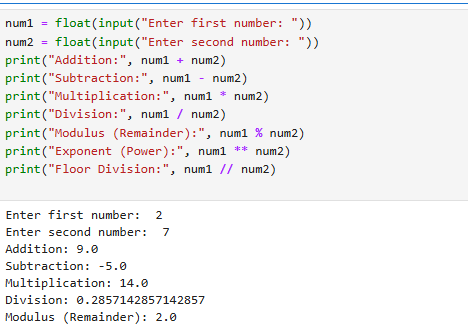
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**LAB 4:**

**TASK 01**

Write a python program to take 2 numbers as input and perform all arithmetic operations on them.

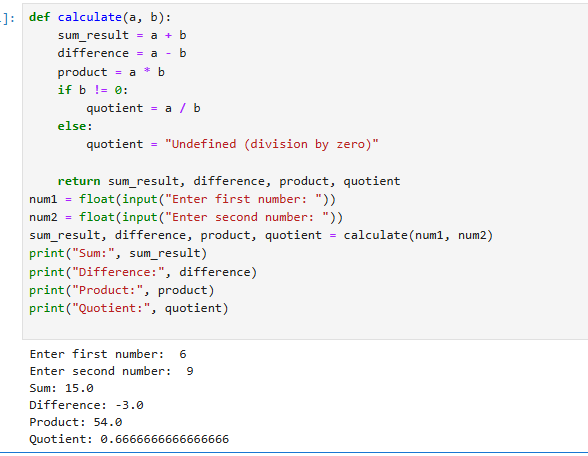
**Program:**

****

**TASK 02**

Create a function that takes two numbers and return their sum, difference, product, and quotient.

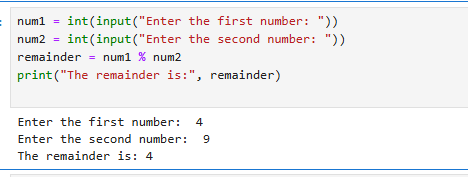
**Program:**

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**TASK 03**

Write a python script to find the remainder when one number is divided by another.

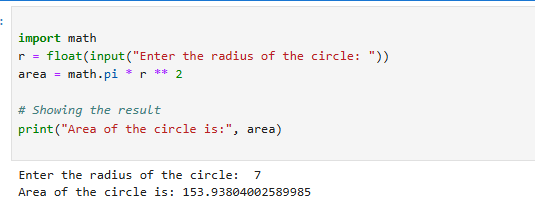
**Program:**

****

**TASK 04**

Write a program to calculate the area of a circle using the formula: area=pi\*r^2.

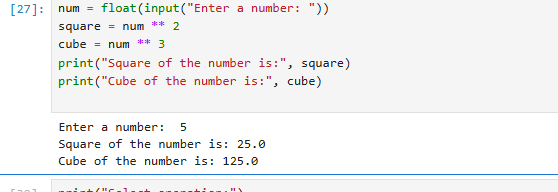
**Program:**

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**Task 05:**

Implement a program that takes a number as input and returns its square and cube using exponentiation.

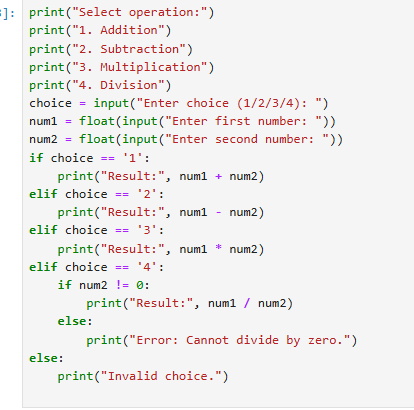
**Program:**

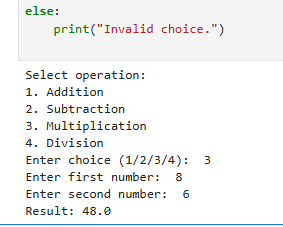
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**TASK 06:**

Create a simple calculator in python that allows the user to choose an operation(addition, subtraction, etc.)and inputs two numbers.

**Program:**

****

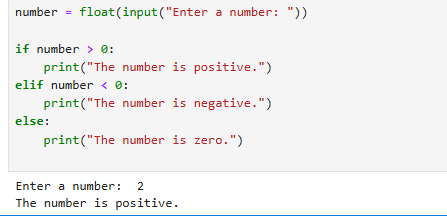
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**Lab 5:**

**Task 1:**

Basic Task: Write a program that checks if a given number is positive, negative, or zero.

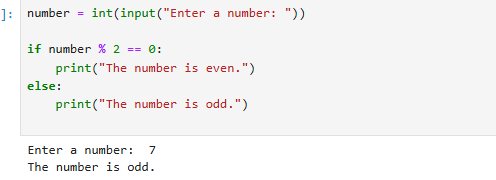
**Program:**

****

**Task 2:**

Intermediate Task: Write a program that takes user input and determines whether it's a even or odd.

**Program:**

****

**Task 3:**

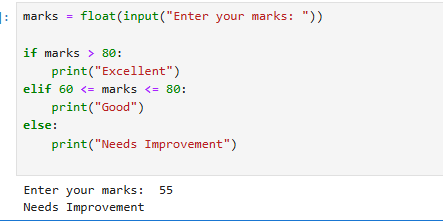
Advanced Task: Create a program that asks user to print:

"Excellent" if marks are above 80

"Good" if marks are between 60 and 80

"Needs Improvement" if marks are below 60

**Program:**

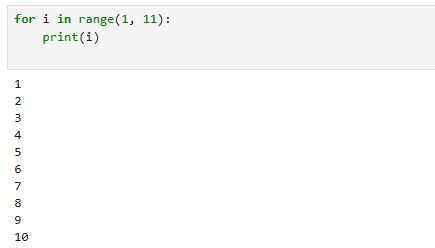
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**Lab 6:**

**Task 1:**

Basic Task: Write a for loop to print the first 10 natural numbers.

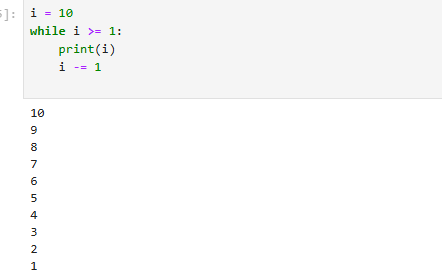
**Program:**

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**Task 2:**

Intermediate Task: Write a while loop that prints numbers from 10 down to 1

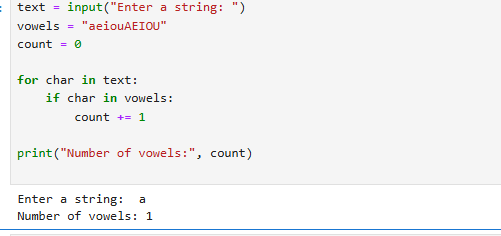
**Program:**

****

**Task 3:**

Advanced Task: Create a program that uses a for loop to iterate over a string and count the number of vowels.

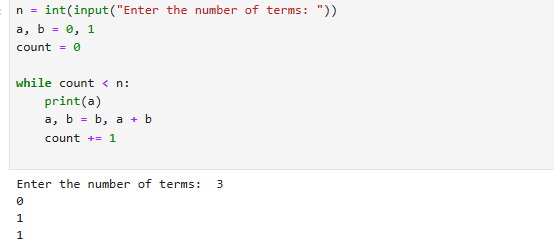
**Program:**

****

**Challenge Task:**

Write a program that prints the Fibonacci series up to n terms using a while loop.

**Program:**

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