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Introduction To Python

Assignment # 01, 02

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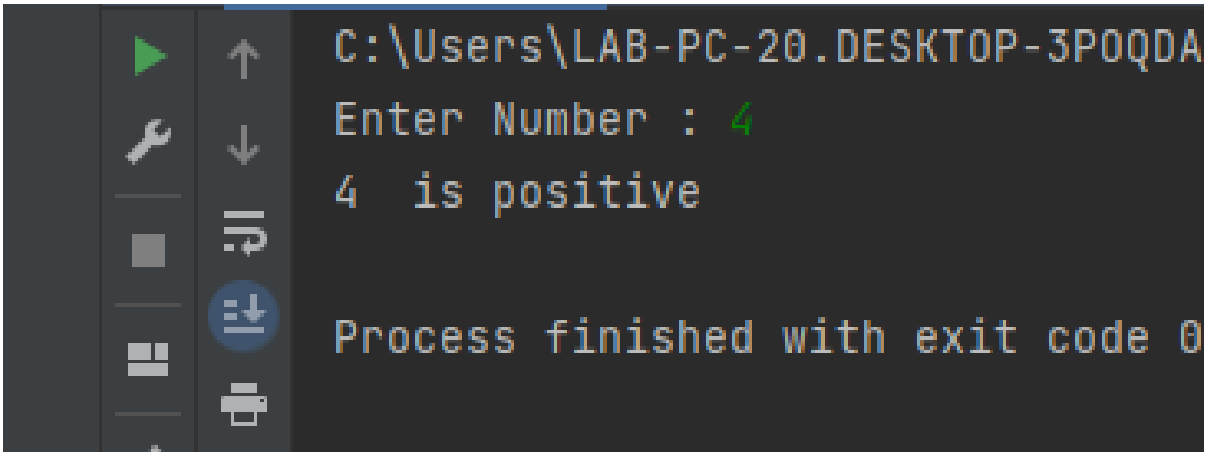
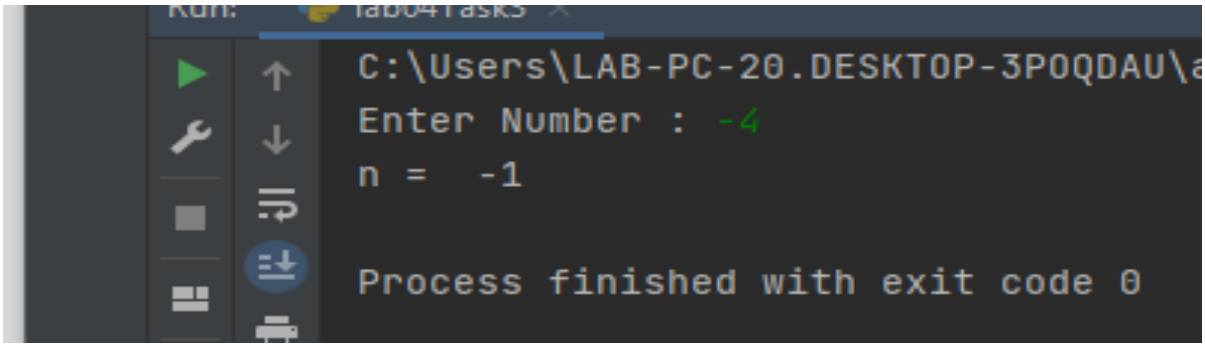
Question # 01:

```
a = int(input("Enter Number : "))
if a < 0:
    print(a, " is Negative")
else:
    print(a, " is positive")
```



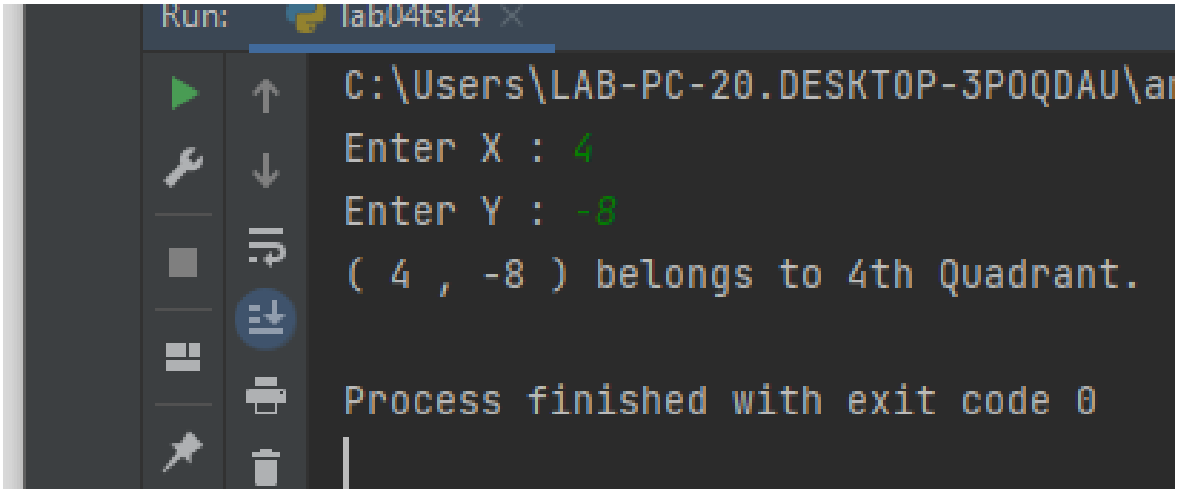
Question # 02:

```
m = int(input("Enter Number : "))
n = 0
if m < 0:
    print("n = ", n - 1)
elif m == 0:
    print("n = ", n)
else:
    print("n = ", n + 1)
```



Question # 03:

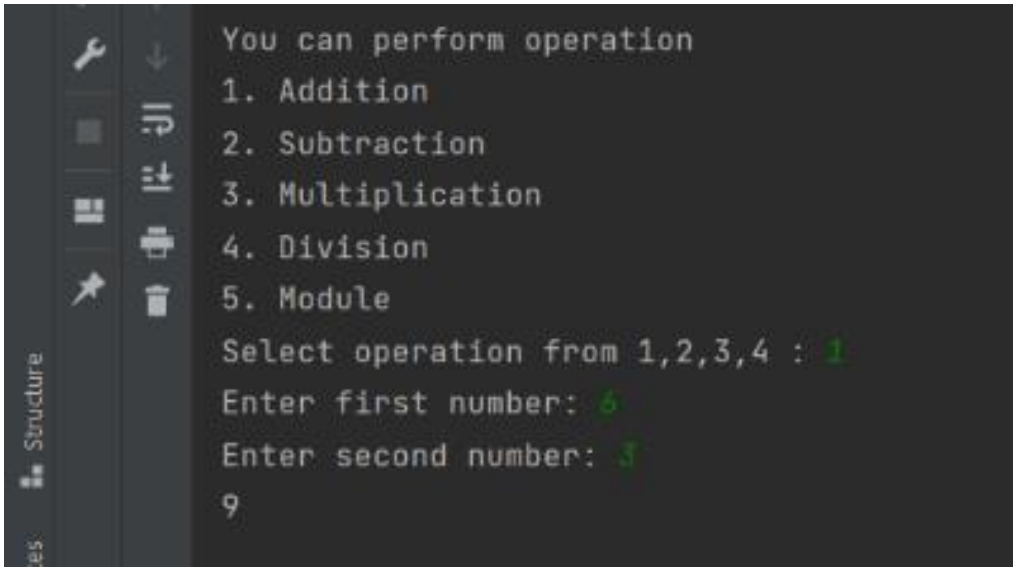
```
x = int(input("Enter X : "))
y = int(input("Enter Y : "))

print("(", x, ",", y, ")", end="")
if (x < 0 and y < 0):
    print(" belongs to 3rd Quadrant.")
elif (x < 0 and y > 0):
    print(" belongs to 1st Quadrant.")
elif (x > 0 and y > 0):
    print(" belongs to 2nd Quadrant.")
else:
    print(" belongs to 4th Quadrant.")
```



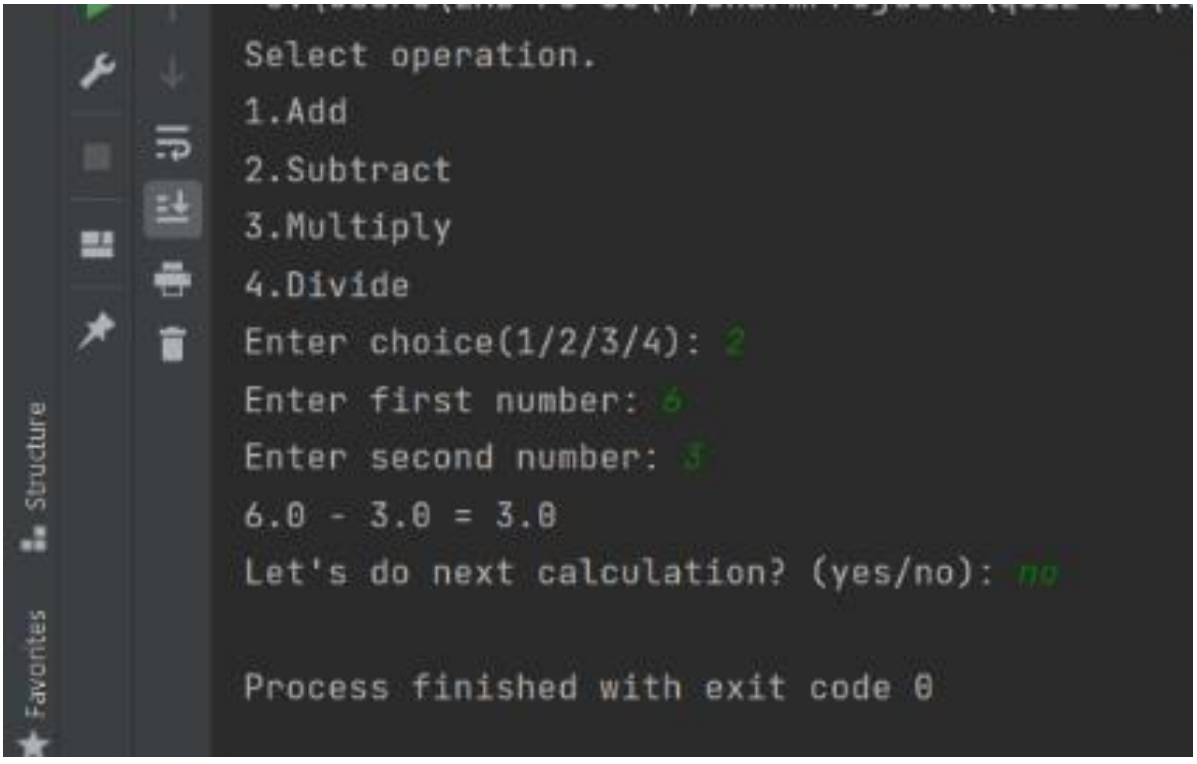
Question # 04:

```
def addition(num1, num2):
    num1 += num2
    return num1


def subtraction(num1, num2):
    num1 -= num2
    return num1


def mul(num1, num2):
    num1 *= num2
    return num1
```

```
def division(num1, num2):
    num1 /= num2
    return num1


def module(num1, num2):
    num1 %= num2
    return num1


def default(num1, num2):
    return "Incorrect day"



switcher = {
    1: addition,
    2: subtraction,
    3: mul,
    4: division,
    5: module
}


def switch(operation, num1, num2):
    return switcher.get(operation, default)(num1, num2)


print('''You can perform operation
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Module ''')
# Take input from user
choice = int(input("Select operation from 1,2,3,4 : "))
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
print(switch(choice, num1, num2))
```

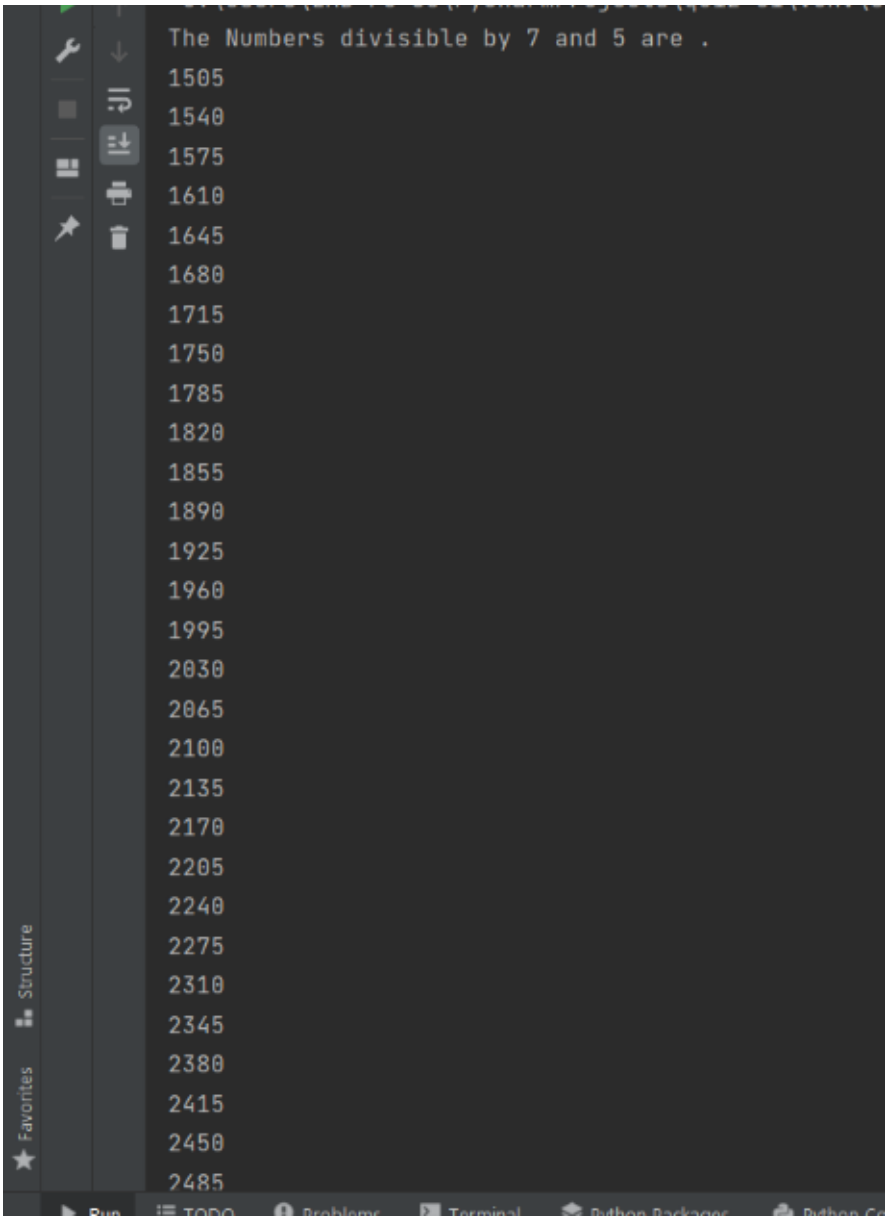


```python
print("Select operation.")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")

while True:
    # take input from the user
    choice = input("Enter choice(1/2/3/4): ")

    # check if choice is one of the four options
    if choice in ('1', '2', '3', '4'):
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))

        if choice == '1':
            print(num1, "+", num2, "=", (num1 + num2))

        elif choice == '2':
            print(num1, "-", num2, "=", (num1 - num2))

        elif choice == '3':
            print(num1, "*", num2, "=", (num1 * num2))

        elif choice == '4':
            print(num1, "/", num2, "=", (num1 / num2))

        next_calculation = input("Let's do next calculation? (yes/no): ")
        if next_calculation == "no":
            break

    else:
        print("Invalid Input")
```



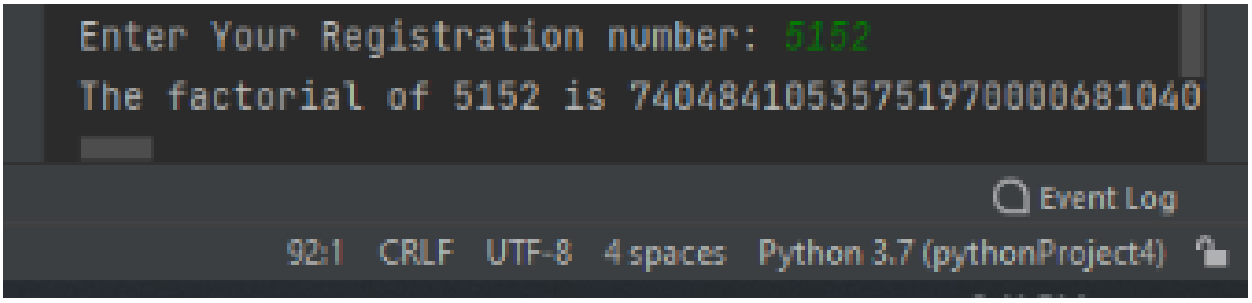
Question # 05:

```
First_num = int(1500)
Last_num = int(2700)
Find = First_num
print("The Numbers divisible by 7 and 5 are .")
while Find <= Last_num:
    if (Find % 35 == 0):
        print(Find," ")
    Find += 1
```



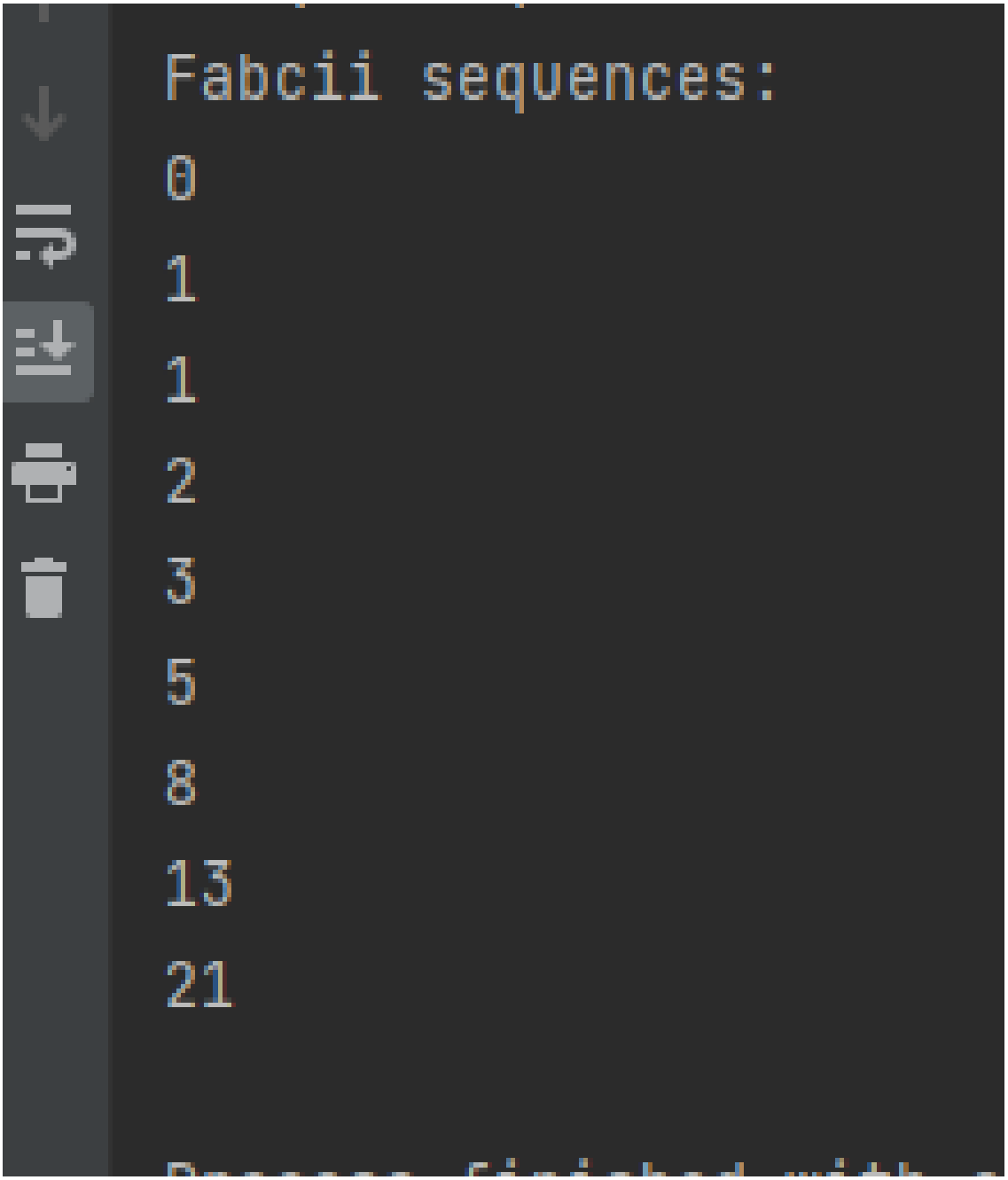
Question # 06:

```
Reg_num = int(input("Enter your Registration Number : "))

factorial = 1
for i in range(1, Reg_num + 1):
    factorial = factorial * i
print("Factorial of ", Reg_num, " Is : ", factorial)
```



Question # 07:

```
turns = 9
num1 = 0
num2 = 1
val = 0

print("Fabcii sequences: ")

while val < turns:
    print(num1)
    temp = num1 + num2
    num1 = num2
    num2 = temp
    val += 1
```



Question # 08:

A.

```
import random

x = random.randint(0, 9)
print("A Random Number in X is : ", x)
```

```
A Random Number in X is :  2
```

B.

```
import random
print("A Random Number in X is : ")
for i in range(3):
    x = random.randint(0, 9)
    print(x , end=" ")
```

```
"C:\Users\SABIR COMPUTER\PycharmPro
A Random Number in X is :
4 1 6
Process finished with exit code 0
```

C.

```
import random
import collections

randomList = []
for i in range(100):
    randomList.append(random.randint(0, 100))
print(randomList)

freqList = [collections.Counter(randomList)]
print("Frequency Of each Number ")
print()
print(freqList)
```

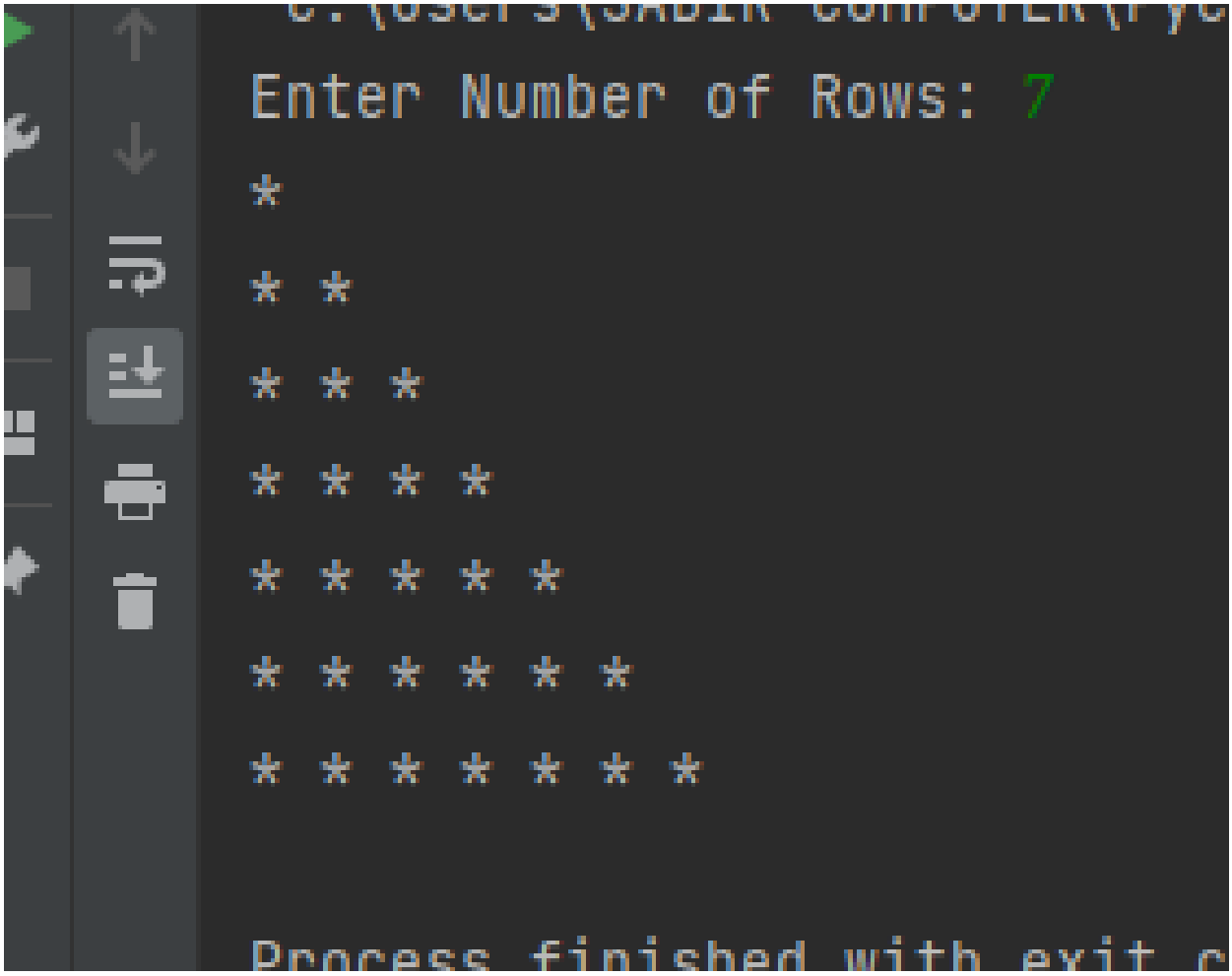
```
"C:\Users\SABIR COMPUTER\PycharmProjects\pythonProject\venv\Scripts\python
[59, 4, 43, 68, 42, 46, 100, 54, 49, 30, 89, 23, 27, 33, 85, 84, 80, 1, 54
Frequency Of each Number

[Counter({36: 4, 54: 3, 40: 3, 96: 3, 5: 3, 60: 3, 4: 2, 68: 2, 42: 2, 46:

Process finished with exit code 0
```

Question # 09:

Patterns:

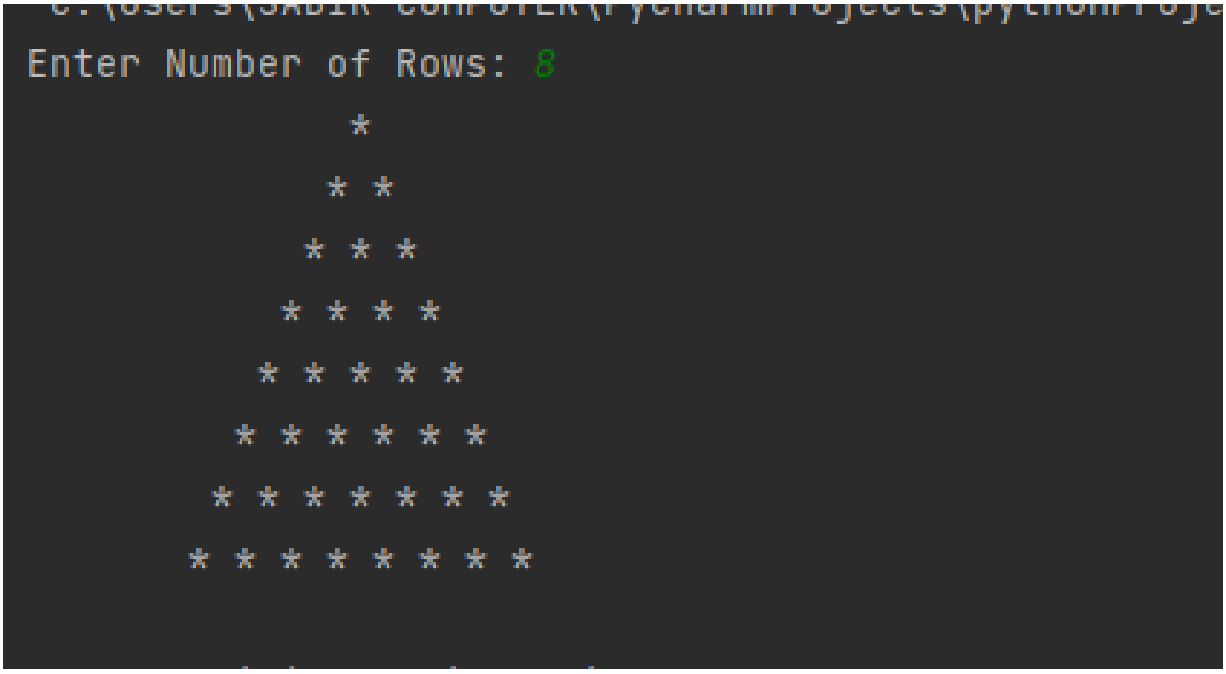
A.

```
rows = int(input("Enter Number of Rows: "))
for i in range(0, rows):
    for j in range(0, i + 1):
        print("*", end=' ')
    print()
```



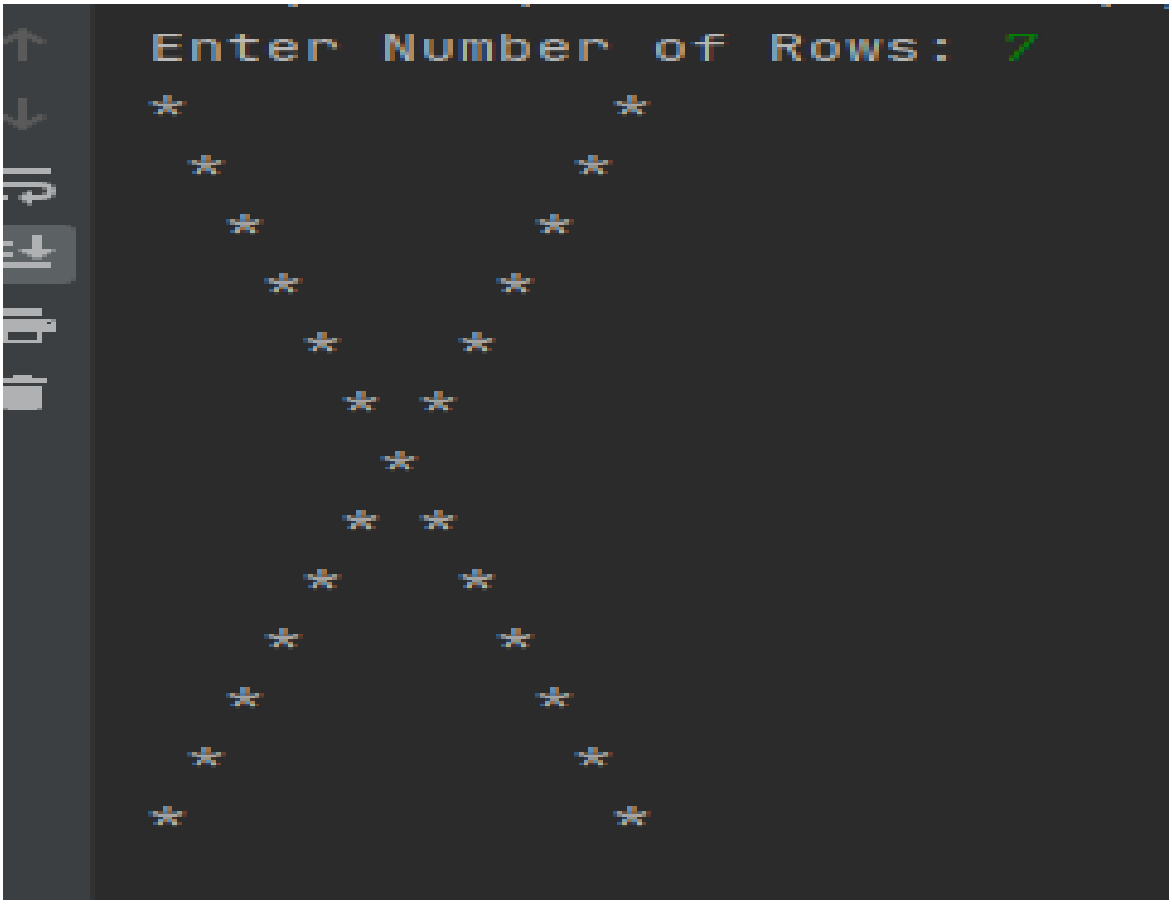
B.

```
rows = int(input("Enter Number of Rows: "))
k = 2 * rows - 2
for i in range(0, rows):
    for j in range(0, k):
        print(end=" ")
    k = k - 1
    for j in range(0, i + 1):
        print("* ", end="")
    print("")
```



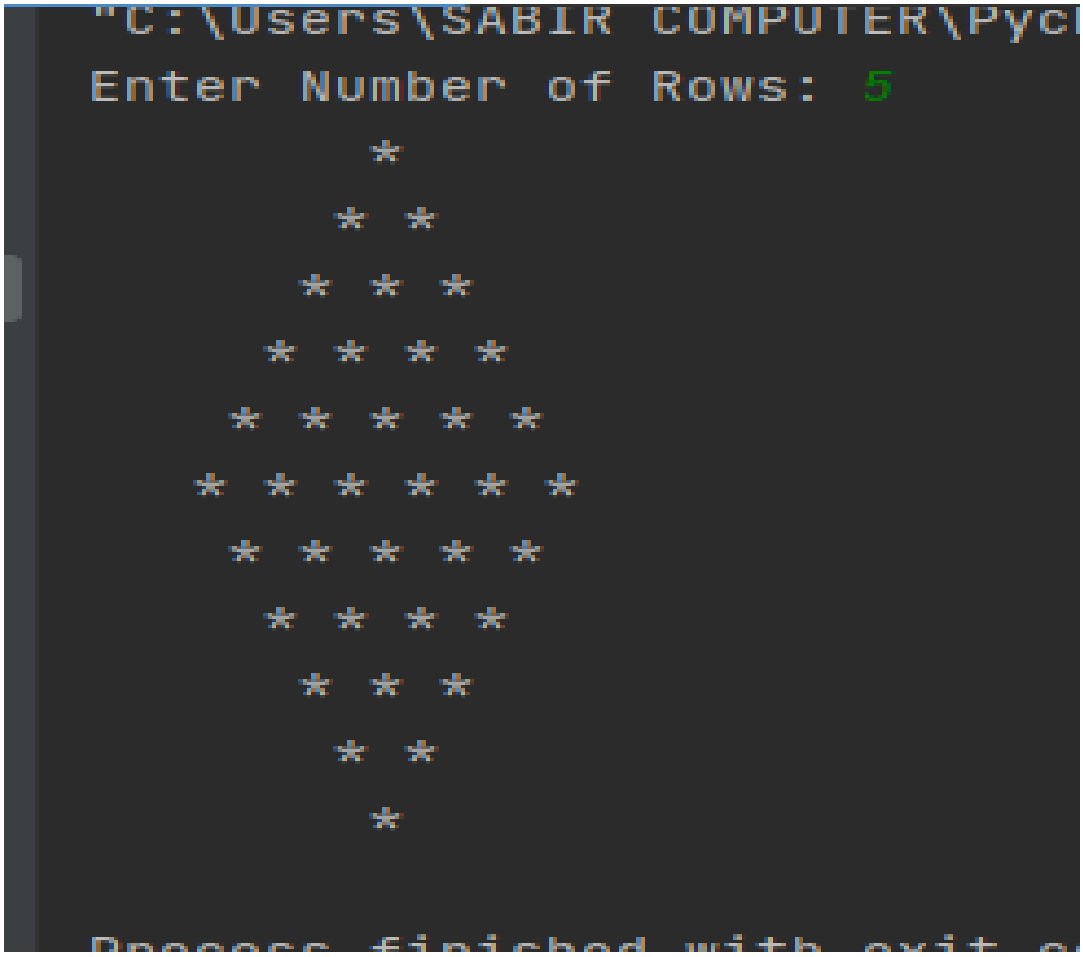
C.

```
rows = int(input("Enter Number of Rows: "))

for i in range(1, 2 * rows):
    for j in range(1, 2 * rows):
        if i == j or i + j == 2 * rows:
            print('*', end='')
        else:
            print(' ', end='')
    print()
```



D.

```
rows = int(input("Enter Number of Rows: "))
k = 2 * rows - 2
for i in range(0, rows):
    for j in range(0, k):
        print(end=" ")
    k = k - 1
    for j in range(0, i + 1):
        print("* ", end="")
    print("")

k = rows - 2

for i in range(rows, -1, -1):
    for j in range(k, 0, -1):
        print(end=" ")
    k = k + 1
    for j in range(0, i + 1):
        print("* ", end="")
    print("")
```


"C:\Users\SABIR COMPUTER\Pyc
Enter Number of Rows: 5
*
* *
* * *
* * * *
* * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*
Process finished with exit