



Name : Sameer Kumar

Dept : Information Technology

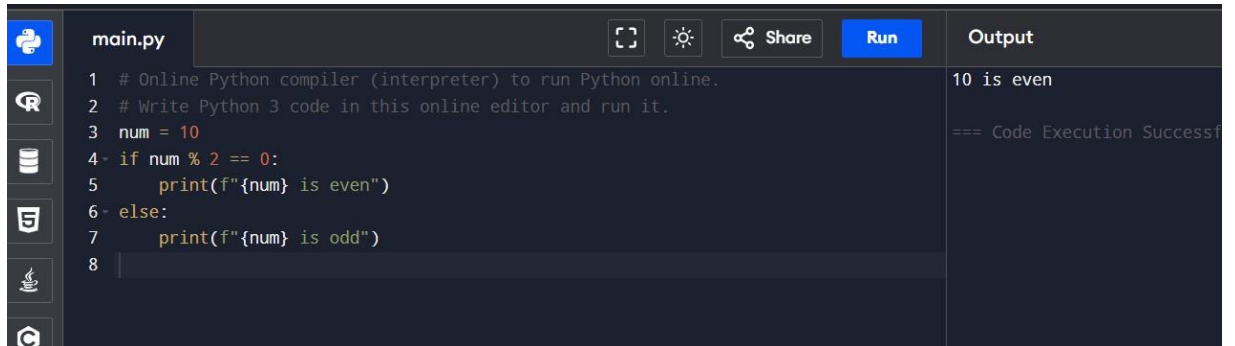
Roll No : BIT-24S-005

Subject : Artificial Intelligence

(LAB TASKS)

LAB #01

Q. MAKE 2 -2 PROGRAMS OF EACH DATA TYPE

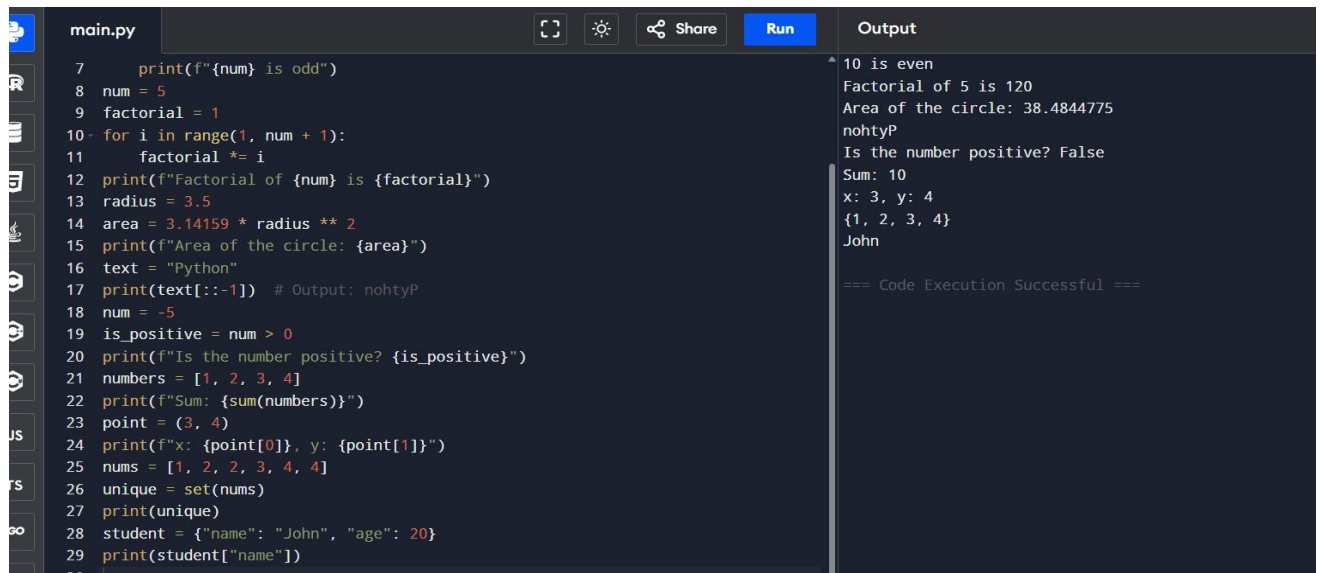


The screenshot shows an online Python compiler interface. The code in the editor is as follows:

```
1 # Online Python compiler (interpreter) to run Python online.
2 # Write Python 3 code in this online editor and run it.
3 num = 10
4 if num % 2 == 0:
5     print(f"{num} is even")
6 else:
7     print(f"{num} is odd")
8
```

The output on the right shows the result of running the code:

```
10 is even
=== Code Execution Successful ===
```



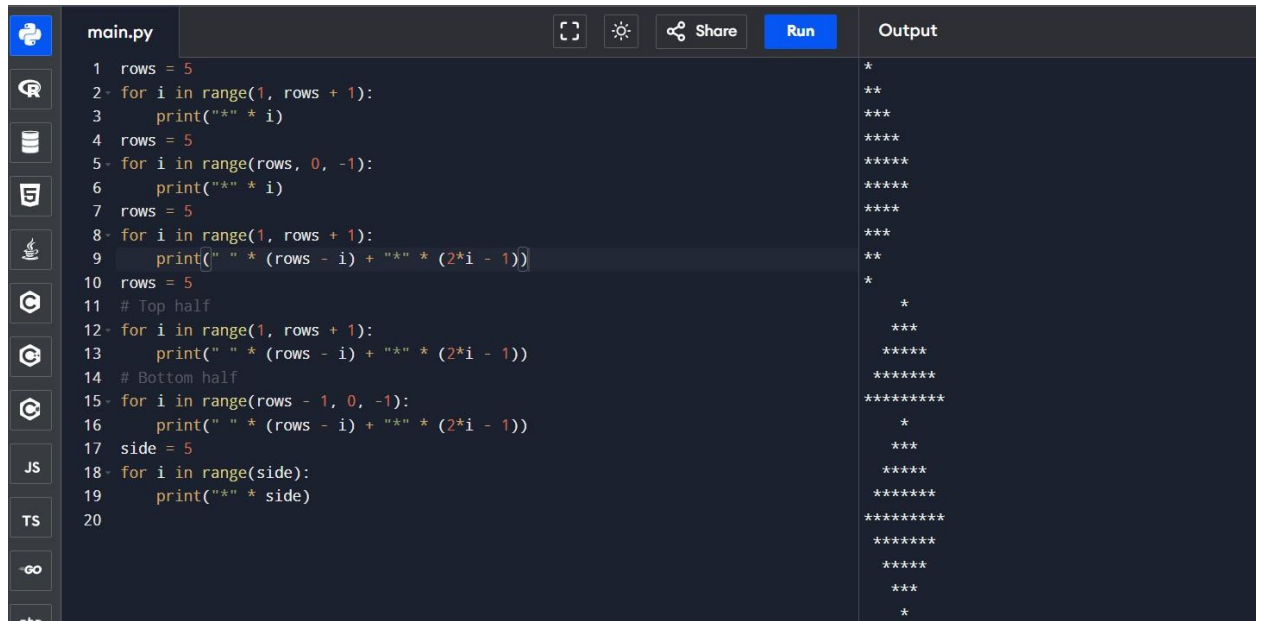
The screenshot shows an online Python compiler interface. The code in the editor is as follows:

```
7     print(f"{num} is odd")
8 num = 5
9 factorial = 1
10 for i in range(1, num + 1):
11     factorial *= i
12 print(f"Factorial of {num} is {factorial}")
13 radius = 3.5
14 area = 3.14159 * radius ** 2
15 print(f"Area of the circle: {area}")
16 text = "Python"
17 print(text[::-1]) # Output: nohtyP
18 num = -5
19 is_positive = num > 0
20 print(f"Is the number positive? {is_positive}")
21 numbers = [1, 2, 3, 4]
22 print(f"Sum: {sum(numbers)}")
23 point = (3, 4)
24 print(f"x: {point[0]}, y: {point[1]}")
25 nums = [1, 2, 2, 3, 4, 4]
26 unique = set(nums)
27 print(unique)
28 student = {"name": "John", "age": 20}
29 print(student["name"])
30
```

The output on the right shows the results of running the code:

```
10 is even
Factorial of 5 is 120
Area of the circle: 38.484775
nohtyP
Is the number positive? False
Sum: 10
x: 3, y: 4
{1, 2, 3, 4}
John
=== Code Execution Successful ===
```

Q. MAKE UP TO 5 SHAPE PROGRAMS USING



```
main.py
1 rows = 5
2 for i in range(1, rows + 1):
3     print("*" * i)
4 rows = 5
5 for i in range(rows, 0, -1):
6     print("*" * i)
7 rows = 5
8 for i in range(1, rows + 1):
9     print(" " * (rows - i) + "*" * (2*i - 1))
10 rows = 5
11 # Top half
12 for i in range(1, rows + 1):
13     print(" " * (rows - i) + "*" * (2*i - 1))
14 # Bottom half
15 for i in range(rows - 1, 0, -1):
16     print(" " * (rows - i) + "*" * (2*i - 1))
17 side = 5
18 for i in range(side):
19     print("*" * side)
20
```

Output

```
*
**
***
****
*****
*****
****
***
**
*
      *
     ***
    *****
   *****
  *****
 *****
  *
   ***
  *****
 *****
 *****
 *****
 *****
  ***
   *
  *
```

Q. MAKE SAME SHAPES YOU HAVE MADE IN
TASK 2 USING * MULTIPLE BY NUMBER

	main.py	Output
1	rows = 5	1*
2	for i in range(1, rows + 1):	2*2*
3	print(f"{i}" * i)	3*3*3*
4	rows = 5	4*4*4*4*
5	for i in range(rows, 0, -1):	5*5*5*5*5*
6	print(f"{i}" * i)	5*5*5*5*5*
7	rows = 5	4*4*4*4*
8	for i in range(1, rows + 1):	3*3*3*
9	line = (f"{i}" * (2*i - 1)).center(2*rows)	2*2*
10	print(line)	1*
11	rows = 5	1*
12	# Top half	2*2*2*
13	for i in range(1, rows + 1):	3*3*3*3*3*
14	line = (f"{i}" * (2*i - 1)).center(2*rows)	4*4*4*4*4*4*4*
15	print(line)	5*5*5*5*5*5*5*5*
16	# Bottom half	1*
17	for i in range(rows - 1, 0, -1):	2*2*2*
18	line = (f"{i}" * (2*i - 1)).center(2*rows)	3*3*3*3*3*
19	print(line)	4*4*4*4*4*4*4*
20	side = 5	5*5*5*5*5*5*5*5*
21	for i in range(1, side + 1):	4*4*4*4*4*4*4*
22	print(f"{i}" * side)	3*3*3*3*3*
23		2*2*2*
		1*

```

1*
2*2*2*
3*3*3*3*3*
4*4*4*4*4*4*4*
5*5*5*5*5*5*5*
4*4*4*4*4*4*4*
3*3*3*3*3*
2*2*2*
1*
1*1*1*1*1*
2*2*2*2*2*
3*3*3*3*3*
4*4*4*4*4*
5*5*5*5*5*

```