



LAB TASK OF ARTIFICIAL INTELLIGENCE

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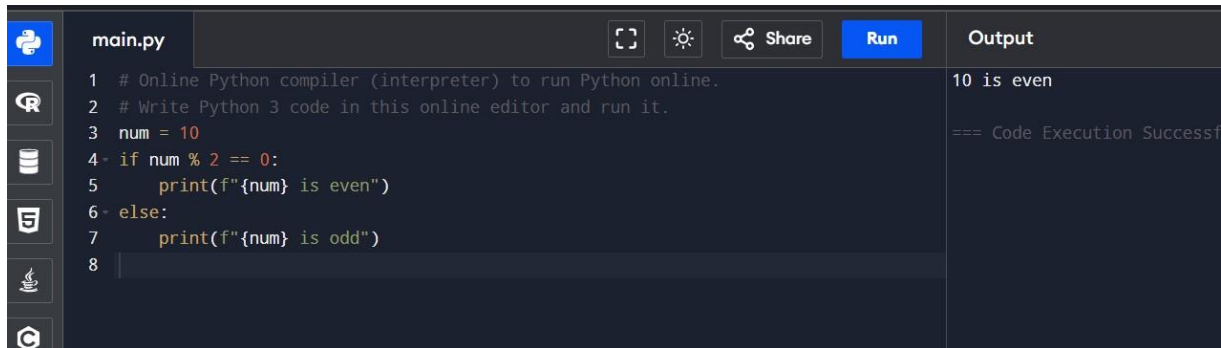
Artificial Intelligence

SUBMITTED TO:

AQSA UMAR

LAB # 01

Q. MAKE 2 -2 PROGRAMS OF EACH DATA TYPE

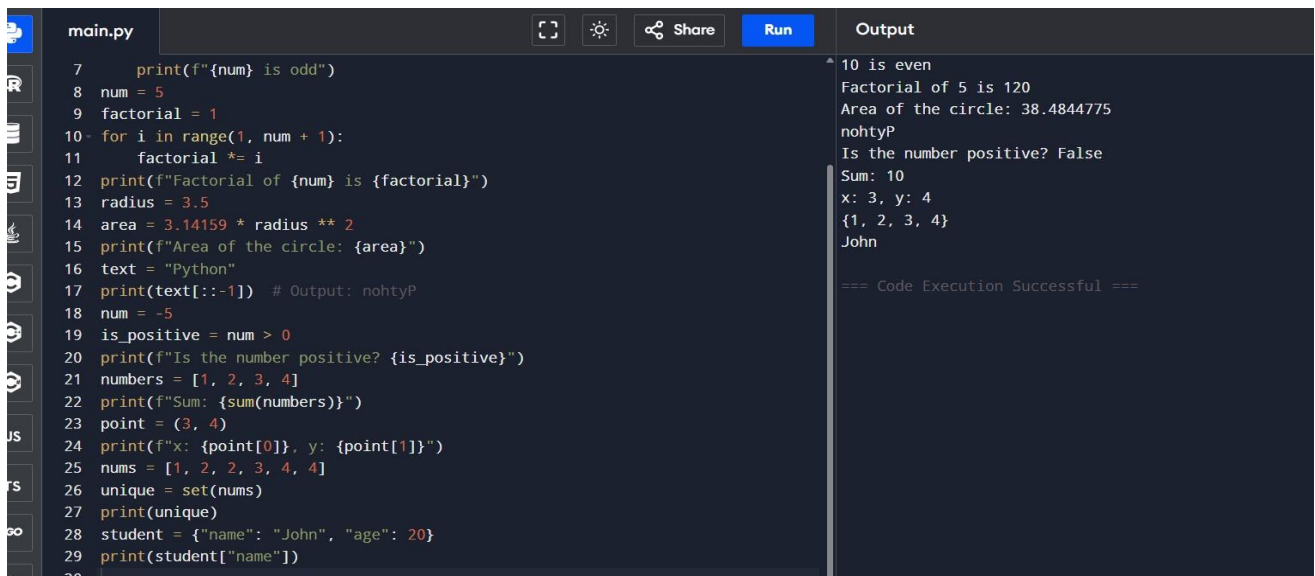


The screenshot shows an online Python compiler interface. The code in `main.py` is as follows:

```
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 `main.py` 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 result of running the code:

```
10 is even
Factorial of 5 is 120
Area of the circle: 38.4844775
nohtyP
Is the number positive? False
Sum: 10
x: 3, y: 4
{1, 2, 3, 4}
John
=== Code Execution Successful ===
```

MAKE UP TO 5 SHAPE PROGRAMS USING

	main.py	Run	Output
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			*****

			*

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

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

```

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

```