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SLOT-B

PYTHON PROGRAMMING FOR BLOCK CHAIN PROJECTS

CSA0815

1.Write a program for Function to add two numbers

main.py

```python
def add_numbers(a, b):
    return a + b
num1 = 5
num2 = 3
result = add_numbers(num1, num2)

print("The sum of", num1, "and", num2, "is:", result)
```

Output

```
The sum of 5 and 3 is: 8

=== Code Execution Successful ===
```

2. Write a program for Function to find factorial of a number

main.py

```python
def factorial_recursive(n):
    if n < 0:
        return "Factorial is not defined for negative numbers"
    elif n == 0 or n == 1:
        return 1
    else:
        return n * factorial_recursive(n - 1)
num = int(input("Enter a number: "))
print(f"Factorial of {num} is {factorial_recursive(num)}")
```

Output

```
Enter a number: 5
Factorial of 5 is 120

=== Code Execution Successful ===
```

3. Write a program for Function to check even or odd

main.py

```python
def check_even_odd(number):
    if number % 2 == 0:
        print(f"{number} is Even.")
    else:
        print(f"{number} is Odd.")
num = int(input("Enter a number: "))
check_even_odd(num)
```

Output

```
Enter a number: 4
4 is Even.

=== Code Execution Successful ===
```

4. Write a program for Function to find power of a number

```python
def power(base, exponent):
    result = 1
    for _ in range(abs(exponent)):
        result *= base
    if exponent < 0:
        return 1 / result
    return result
base = float(input("Enter the base: "))
exponent = int(input("Enter the exponent: "))
print(f"{base} raised to the power of {exponent} is {power(base, exponent)}")
```

```
Enter the base: 2
Enter the exponent: 6
2.0 raised to the power of 6 is 64.0

=== Code Execution Successful ===
```

5. Write a program for Function to swap two numbers

```python
def swap_numbers(a, b):
    print("Before swapping: a =", a, "b =", b)
    a, b = b, a
    print("After swapping: a =", a, "b =", b)
    return a, b
x = 10
y = 20
x, y = swap_numbers(x, y)
```

```
Before swapping: a = 10 b = 20
After swapping: a = 20 b = 10

=== Code Execution Successful ===
```

6. 1. len() - Get string length

#Python Program

#Simple string program using built in function

text = "Hello, #Python” print(len(text))

 # Output: 14

```python
text = "Hello, #Python"
print(len(text))
```

```
14

=== Code Execution Successful ===
```

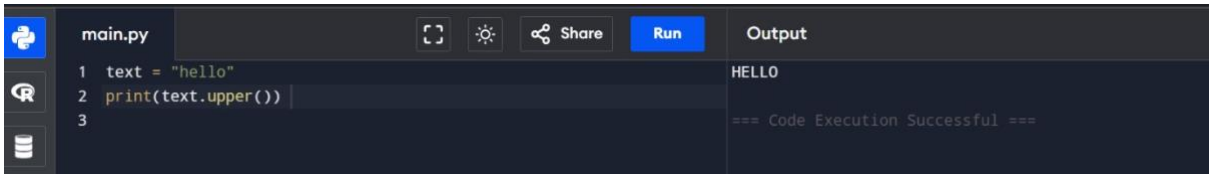
2. upper() - Convert to uppercase

#Python Program

#Simple string program using built in function text

= "hello"

print(text.upper()) # Output: HELLO



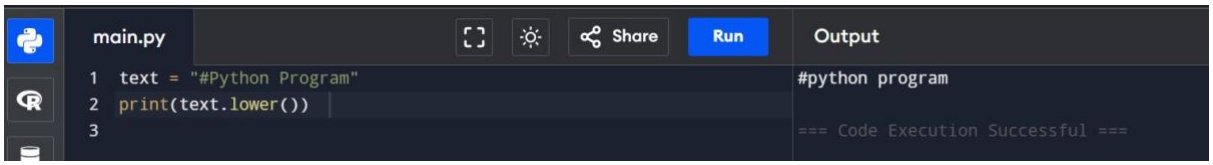
3. **lower() - Convert to lowercase**

#Python Program

#Simple string program using built in function

text = " #Python Program"

print(text.lower()) # Output: #Python Program



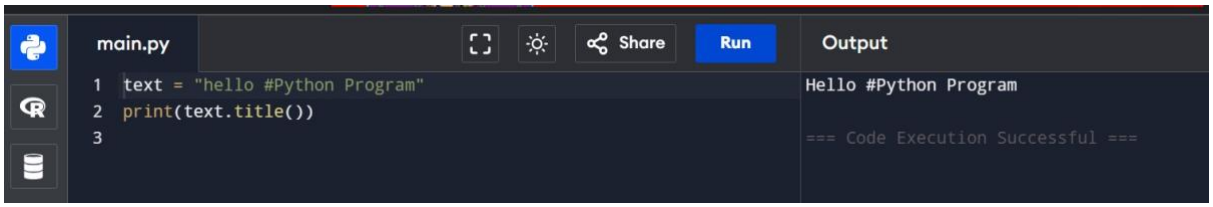
4. **title() - Convert to title case**

#Python Program

#Simple string program using built in function text

= "hello #Python Program"

print(text.title()) # Output: Hello #Python Program



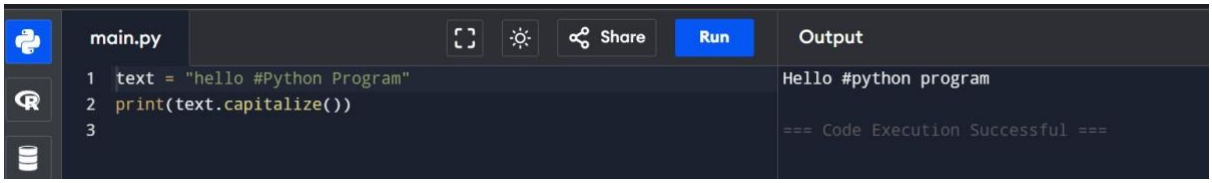
5. **capitalize() - Capitalize first letter**

#Python Program

#Simple string program using built in function

text = "hello #Python Program"

print(text.capitalize()) # Output: Hello #Python Program



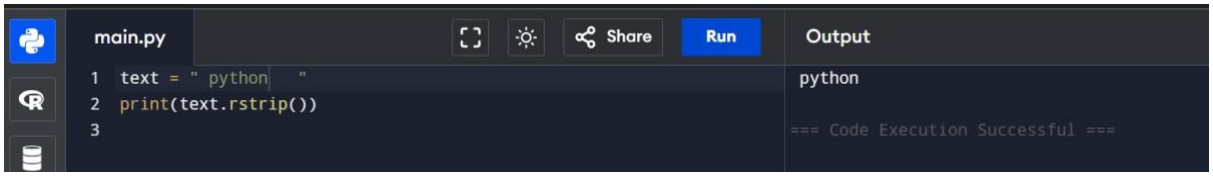
6. **strip() - Remove leading and trailing spaces**

#Python Program

#Simple string program using built in function

text = " " print(text.strip()) #

Output: #Python Program



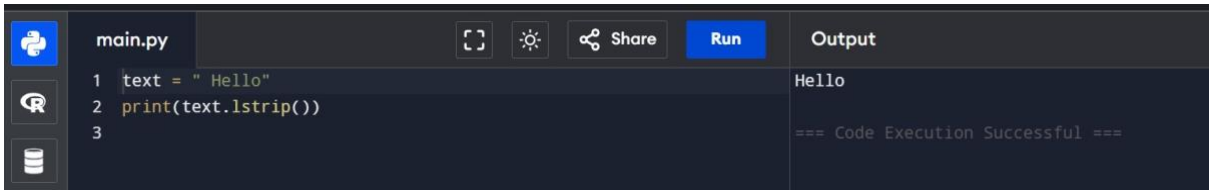
7. **lstrip() - Remove leading spaces**

#Python Program

#Simple string program using built in function

text = " Hello" print(text.lstrip())

 # Output: Hello



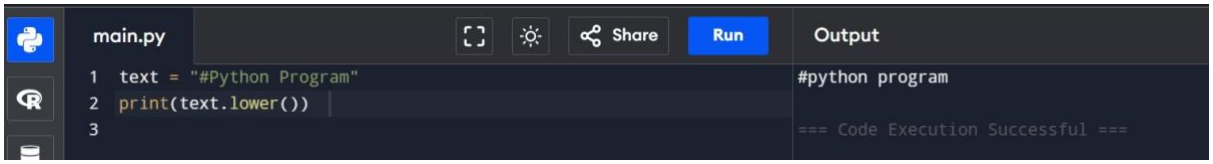
8. **rstrip() - Remove trailing spaces**

#Python Program

#Simple string program using built in function text

= " "

print(text.rstrip()) # Output: #Python Program



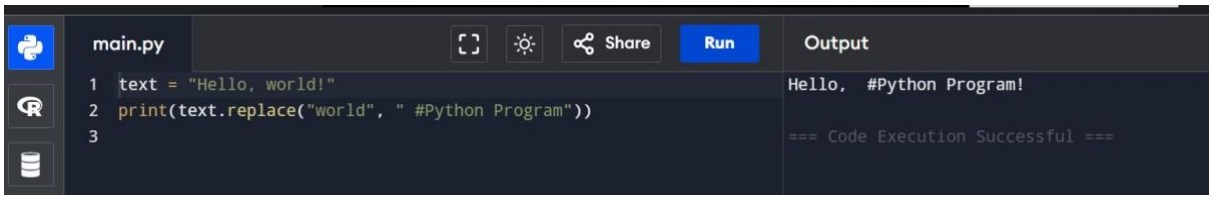
9. replace() - Replace substring

#Python Program

#Simple string program using built in function text

= "Hello, world!"

print(text.replace("world", " #Python Program")) # Output: Hello, #Python Program!



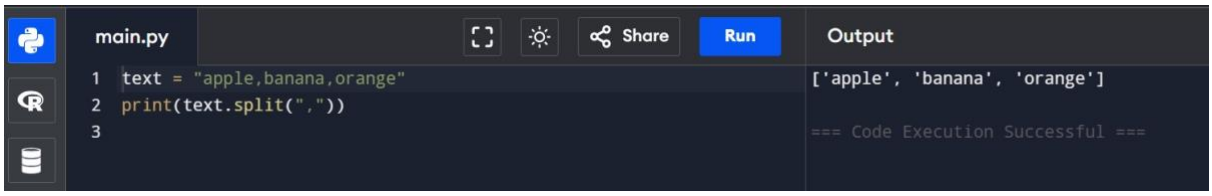
10. split() - Split string into list

#Python Program

#Simple string program using built in function text =

"apple,banana,orange" print(text.split(",")) #

Output: [apple; banana ;orange']



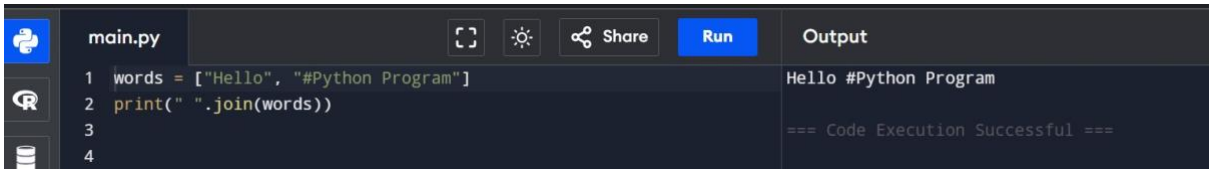
11. join() - Join list into string

#Python Program

#Simple string program using built in function

words = ["Hello", " #Python Program"] print("

".join(words)) # Output: Hello #Python Program



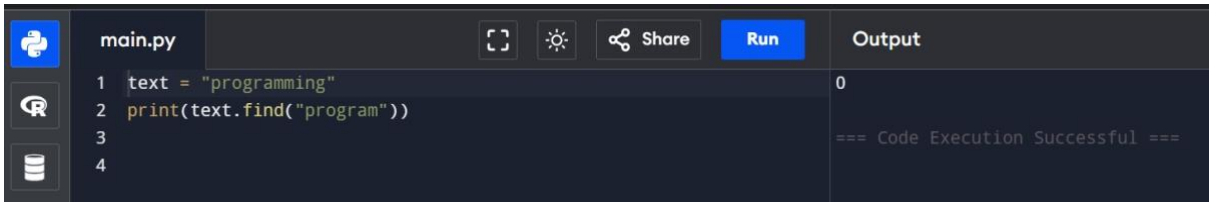
12. find() - Find substring index

#Python Program

#Simple string program using built in function

text = "programming"

print(text.find("program")) # Output: 7



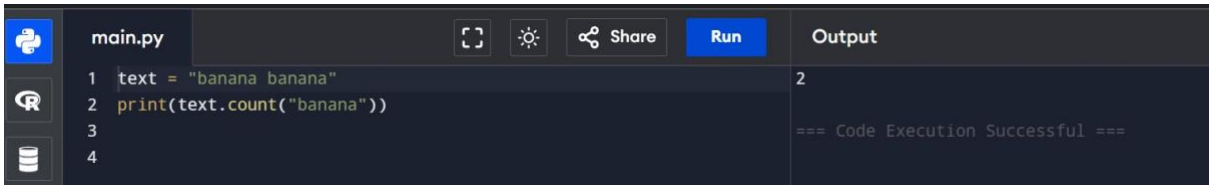
13. count() - Count occurrences of substring

#Python Program

#Simple string program using built in function text

= "banana banana"

print(text.count("banana")) # Output: 2



14. startswith() - Check if string starts with substring

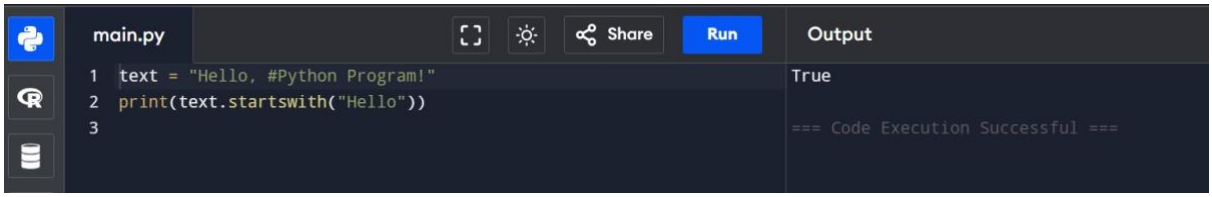
#Python Program

#Simple string program using built in function text =

"Hello, #Python Program!"

print(text.startswith("Hello")) # Output:

True



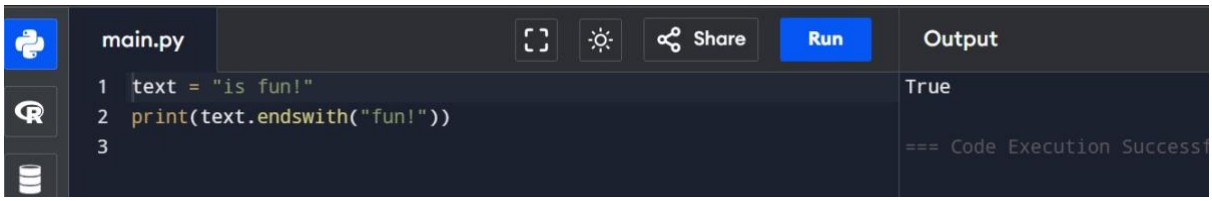
15. endswith() - Check if string ends with substring

#Python Program

#Simple string program using built in function text =

"is fun!"

print(text.endswith("fun!")) # Output: True



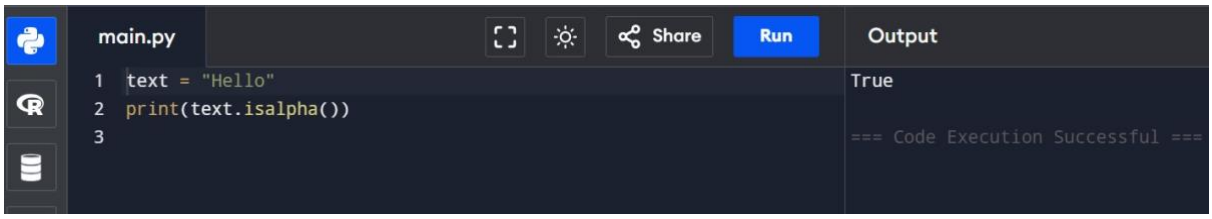
16. isalpha() - Check if all characters are alphabets

#Python Program

#Simple string program using built in function

text = "Hello" print(text.isalpha())

 # Output: True



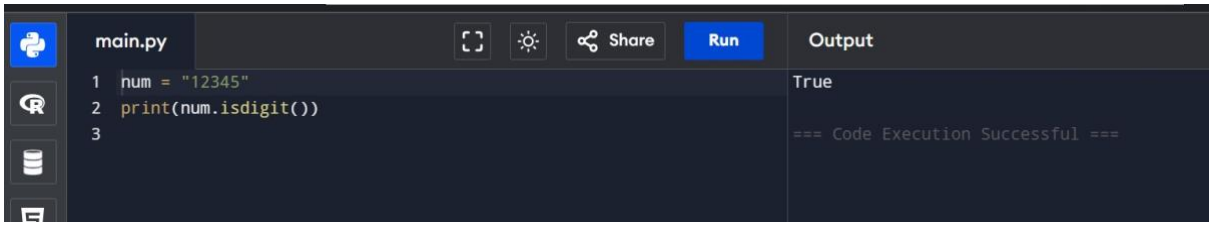
17. isdigit() - Check if all characters are digits

#Python Program

#Simple string program using built in function

num = "12345" print(num.isdigit())

 # Output: True

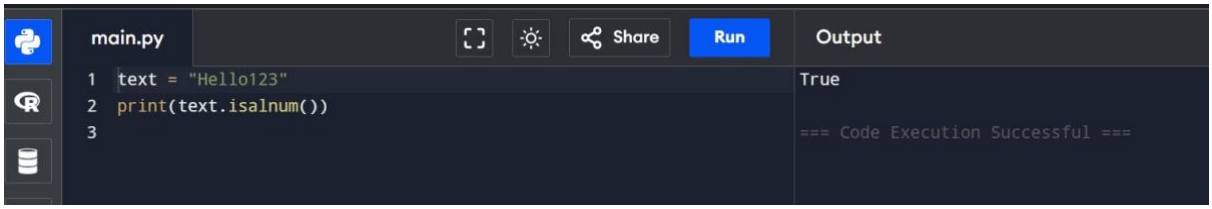


18. isalnum() - Check if string is alphanumeric

#Python Program

#Simple string program using built in function text =

"Hello123"print(text.isalnum()) # Output: True



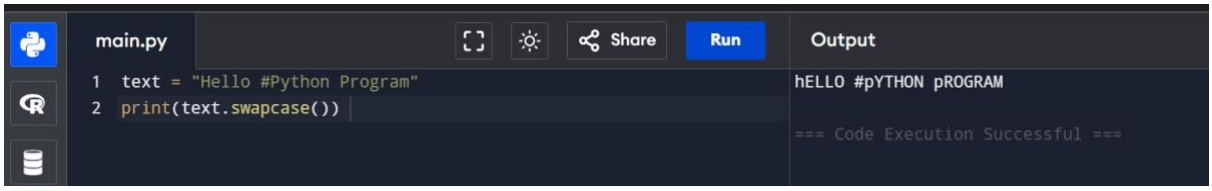
19. swapcase() - Swap case of characters

#Python Program

#Simple string program using built in function text =

"Hello #Python Program"

print(text.swapcase()) # Output: hELLO #Python Program



20. zfill() - Pad string with zeros

#Python Program

#Simple string program using built in function text

= "42"

print(text.zfill(5))