

**P.DILLI BABU**

**192472284**

**SLOT-B**

**PYTHON PROGRAMMING FOR BLOCK CHAIN PROJECTS**

**CSA0815**

**1. Write a program for Function to add two numbers**

	main.py	Output
<pre>1 - def add_numbers(a, b): 2     return a + b 3 num1 = 5 4 num2 = 3 5 result = add_numbers(num1, num2) 6 7 print("The sum of", num1, "and", num2, "is:", result) 8</pre>	<pre>The sum of 5 and 3 is: 8  === Code Execution Successful ===</pre>	








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

	main.py	Output
<pre>1 - def factorial_recursive(n): 2     if n &lt; 0: 3         return "Factorial is not defined for negative numbers" 4     elif n == 0 or n == 1: 5         return 1 6     else: 7         return n * factorial_recursive(n - 1) 8 num = int(input("Enter a number: ")) 9 print(f"Factorial of {num} is {factorial_recursive(num)}")</pre>	<pre>Enter a number: 5 Factorial of 5 is 120  === Code Execution Successful ===</pre>	









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

	main.py	Output
<pre>1 - def check_even_odd(number): 2     if number % 2 == 0: 3         print(f"{number} is Even.") 4     else: 5         print(f"{number} is Odd.") 6 num = int(input("Enter a number: ")) 7 check_even_odd(num)</pre>	<pre>Enter a number: 4 4 is Even.  === Code Execution Successful ===</pre>	

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

	<b>main.py</b>	   Share 	<b>Output</b>
    	<pre>1 def power(base, exponent): 2     result = 1 3     for _ in range(abs(exponent)): 4         result *= base 5     if exponent &lt; 0: 6         return 1 / result 7     return result 8 base = float(input("Enter the base: ")) 9 exponent = int(input("Enter the exponent: ")) 10 print(f"{base} raised to the power of {exponent} is {power(base, exponent)}")</pre>		<pre>Enter the base: 2 Enter the exponent: 6 2.0 raised to the power of 6 is 64.0  === Code Execution Successful ===</pre>

## 5. Write a program for Function to swap two numbers

	<b>main.py</b>	   Share 	<b>Output</b>
    	<pre>1 def swap_numbers(a, b): 2     print("Before swapping: a =", a, "b =", b) 3     a, b = b, a 4     print("After swapping: a =", a, "b =", b) 5     return a, b 6 x = 10 7 y = 20 8 x, y = swap_numbers(x, y) 9</pre>		<pre>Before swapping: a = 10 b = 20 After swapping: a = 20 b = 10  === Code Execution Successful ===</pre>











## 6. 1. len() - Get string length

#Python Program

#Simple string program using built in function

text = "Hello, #Python"

print(len(text)) # Output: 14

	<b>main.py</b>	   Share 	<b>Output</b>
    	<pre>1 text = "Hello, #Python" 2 print(len(text))</pre>		<pre>14  === Code Execution Successful ===</pre>

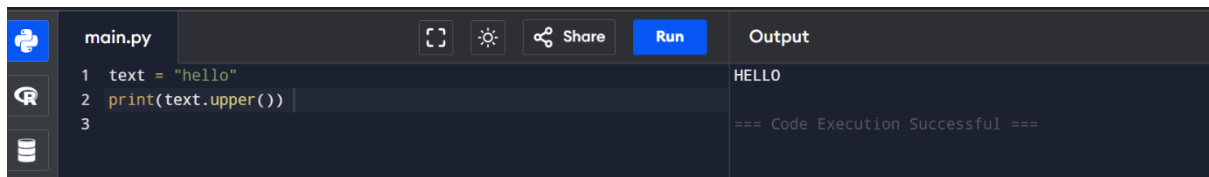
## 2. upper() - Convert to uppercase

#Python Program

#Simple string program using built in function

text = "hello"

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



The screenshot shows a Python IDE with a file named 'main.py'. The code contains three lines: `1 text = "hello"`, `2 print(text.upper())`, and `3`. The 'Run' button is highlighted. The 'Output' pane on the right shows the result 'HELLO' and a success message '=== Code Execution Successful ==='.

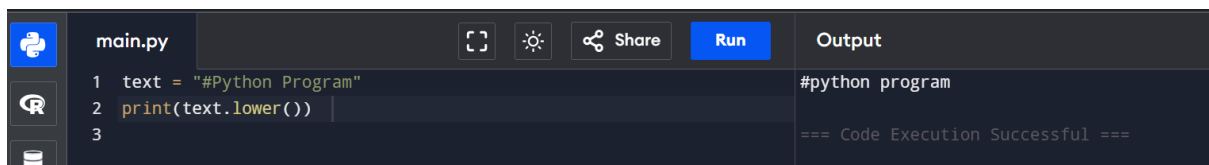
### 3. lower() - Convert to lowercase

**#Python Program**

**#Simple string program using built in function**

**text = " #Python Program"**

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



The screenshot shows a Python IDE with a file named 'main.py'. The code contains three lines: `1 text = "#Python Program"`, `2 print(text.lower())`, and `3`. The 'Run' button is highlighted. The 'Output' pane on the right shows the result '#python program' and a success message '=== Code Execution Successful ==='.

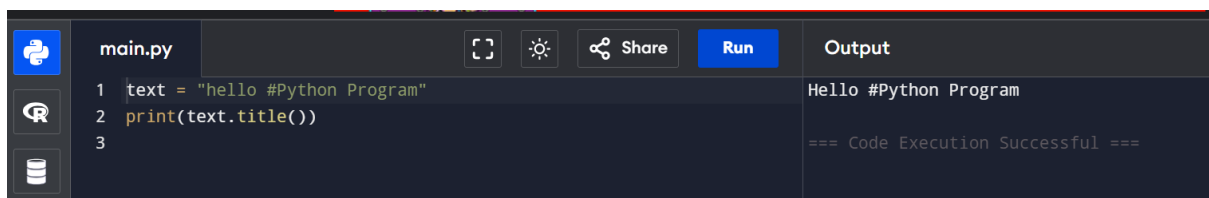
### 4. title() - Convert to title case

**#Python Program**

**#Simple string program using built in function**

**text = "hello #Python Program"**

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



The screenshot shows a Python IDE with a file named 'main.py'. The code contains three lines: `1 text = "hello #Python Program"`, `2 print(text.title())`, and `3`. The 'Run' button is highlighted. The 'Output' pane on the right shows the result 'Hello #Python Program' and a success message '=== Code Execution Successful ==='.

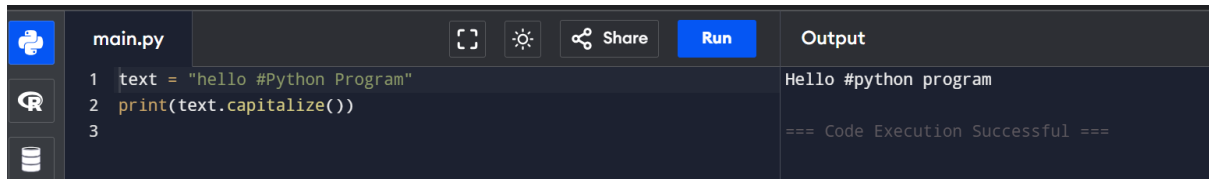
### 5. capitalize() - Capitalize first letter

**#Python Program**

**#Simple string program using built in function**

```
text = "hello #Python Program";
```

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



The screenshot shows a Python IDE with a file named 'main.py'. The code consists of three lines: `1 text = "hello #Python Program"`, `2 print(text.capitalize())`, and `3`. The 'Output' pane on the right displays 'Hello #python program' and '=== Code Execution Successful ==='. The interface includes icons for Python, a search icon, a share icon, and a 'Run' button.

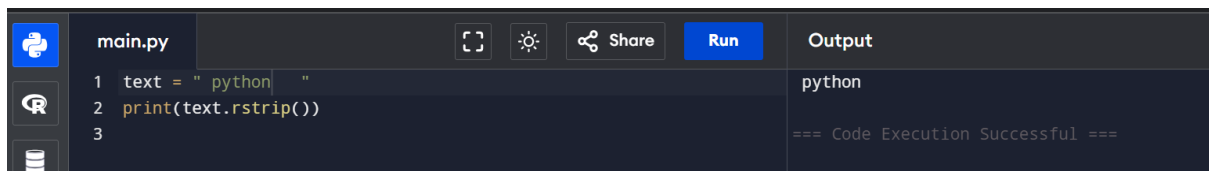
## 6. strip() - Remove leading and trailing spaces

#Python Program

#Simple string program using built in function

```
text = " #Python Program ";
```

```
print(text.strip()) # Output: #Python Program
```



The screenshot shows a Python IDE with a file named 'main.py'. The code consists of three lines: `1 text = " python "`, `2 print(text.rstrip())`, and `3`. The 'Output' pane on the right displays 'python' and '=== Code Execution Successful ==='. The interface includes icons for Python, a search icon, a share icon, and a 'Run' button.

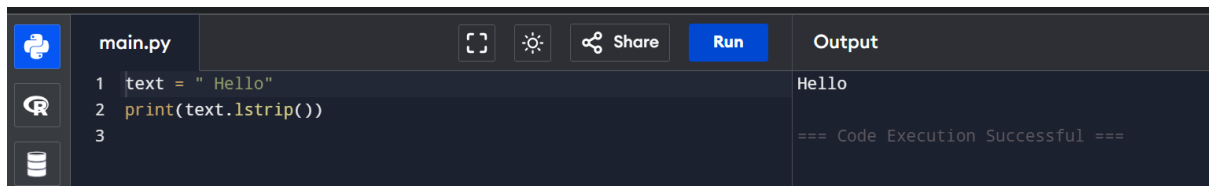
## 7. lstrip() - Remove leading spaces

#Python Program

#Simple string program using built in function

```
text = " Hello ";
```

```
print(text.lstrip()) # Output: Hello
```



The screenshot shows a Python IDE with a file named 'main.py'. The code consists of three lines: `1 text = " Hello"`, `2 print(text.lstrip())`, and `3`. The 'Output' pane on the right displays 'Hello' and '=== Code Execution Successful ==='. The interface includes icons for Python, a search icon, a share icon, and a 'Run' button.

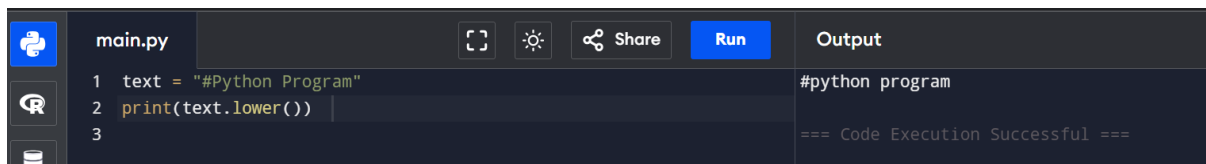
## 8. rstrip() - Remove trailing spaces

#Python Program

#Simple string program using built in function

```
text = " Hello ";
```

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



```
main.py
1 text = "#Python Program"
2 print(text.rstrip())
3
```

Output

```
#python program
=== Code Execution Successful ===
```

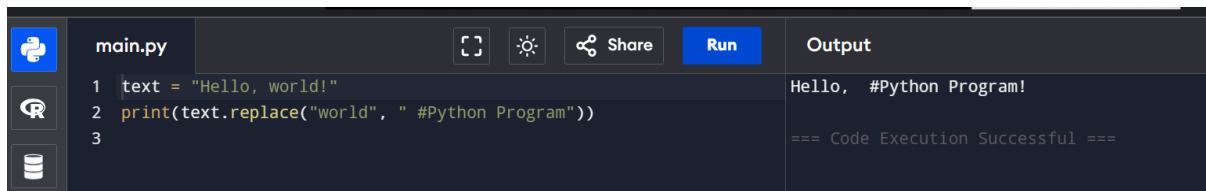
## 9. replace() - Replace substring

**#Python Program**

**#Simple string program using built in function**

**text = "Hello, world!"**

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



```
main.py
1 text = "Hello, world!"
2 print(text.replace("world", " #Python Program"))
3
```

Output

```
Hello,  #Python Program!
=== Code Execution Successful ===
```

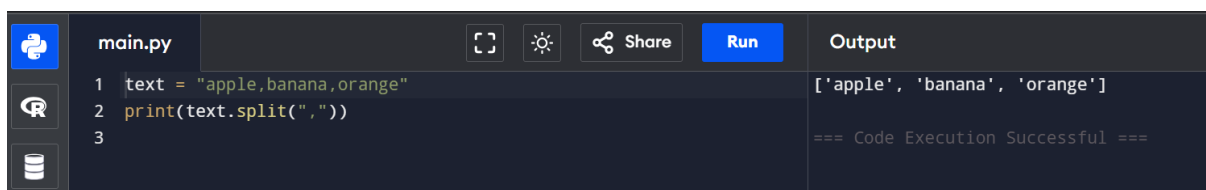
## 10. split() - Split string into list

**#Python Program**

**#Simple string program using built in function**

**text = "apple,banana,orange"**

**print(text.split(",")) # Output: ['apple', 'banana', 'orange']**



```
main.py
1 text = "apple,banana,orange"
2 print(text.split(","))
3
```

Output

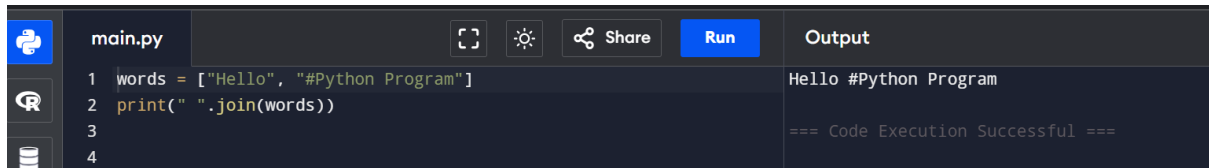
```
['apple', 'banana', 'orange']
=== Code Execution Successful ===
```

## 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
```



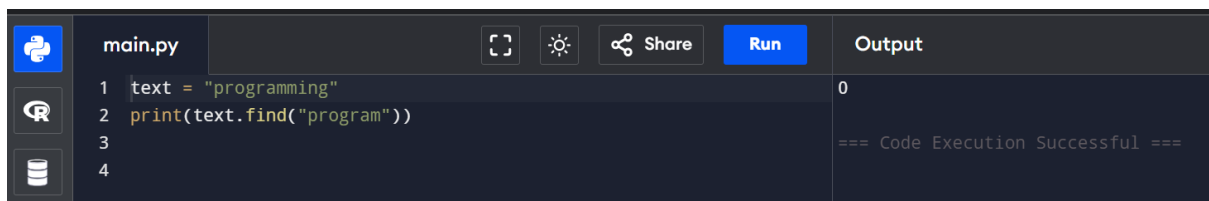
The screenshot shows a Python IDE interface. On the left, there are icons for Python, a file explorer, and a database. The main editor area is titled 'main.py' and contains the following code:  
1 words = ["Hello", "#Python Program"]  
2 print(" ".join(words))  
3  
4  
On the right, there is an 'Output' panel showing the result: 'Hello #Python Program'. Below the output, it says '=== Code Execution Successful ==='. At the top of the editor, there are buttons for 'Run', 'Share', and a settings icon.

## 12. find() - Find substring index

**#Python Program**

**#Simple string program using built in function**

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



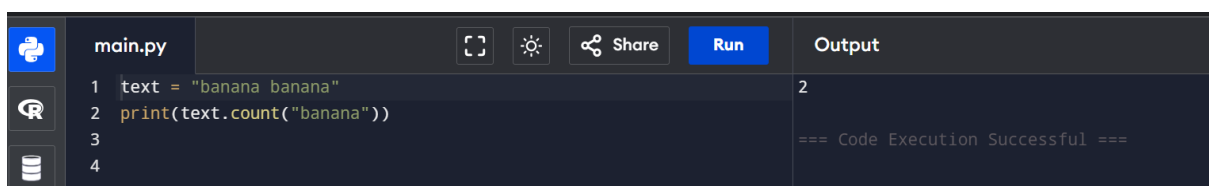
The screenshot shows a Python IDE interface. On the left, there are icons for Python, a file explorer, and a database. The main editor area is titled 'main.py' and contains the following code:  
1 text = "programming"  
2 print(text.find("program"))  
3  
4  
On the right, there is an 'Output' panel showing the result: '0'. Below the output, it says '=== Code Execution Successful ==='. At the top of the editor, there are buttons for 'Run', 'Share', and a settings icon.

## 13. count() - Count occurrences of substring

**#Python Program**

**#Simple string program using built in function**

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



The screenshot shows a Python IDE interface. On the left, there are icons for Python, a file explorer, and a database. The main editor area is titled 'main.py' and contains the following code:  
1 text = "banana banana"  
2 print(text.count("banana"))  
3  
4  
On the right, there is an 'Output' panel showing the result: '2'. Below the output, it says '=== Code Execution Successful ==='. At the top of the editor, there are buttons for 'Run', 'Share', and a settings icon.

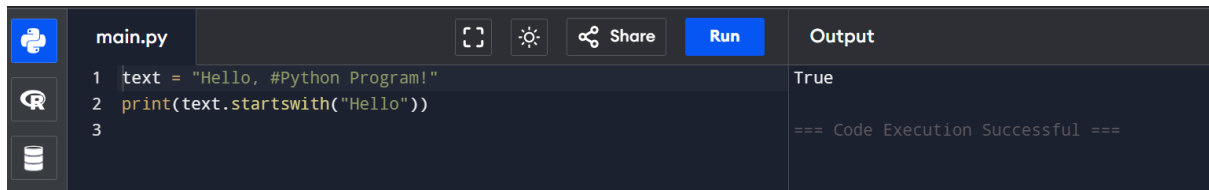
#### 14. startswith() - Check if string starts with substring

#Python Program

#Simple string program using built in function

```
text = "Hello, #Python Program!"
```

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



The screenshot shows a Python IDE interface. On the left, there are icons for Python, a search icon, and a database icon. The main editor area is titled 'main.py' and contains the following code:

```
1 text = "Hello, #Python Program!"
2 print(text.startswith("Hello"))
3
```

On the right, there is a 'Run' button and an 'Output' panel. The 'Output' panel displays the result of the program execution:

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

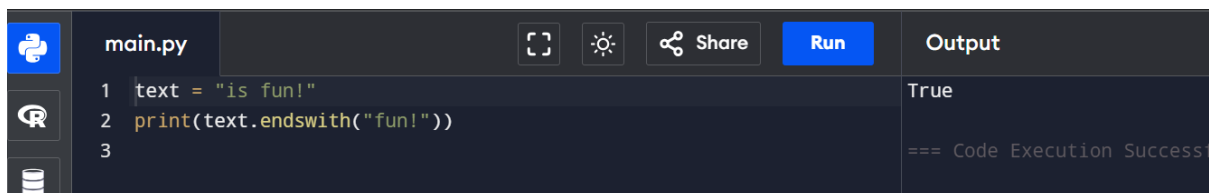
#### 15. endswith() - Check if string ends with substring

#Python Program

#Simple string program using built in function

```
text = "is fun!"
```

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



The screenshot shows a Python IDE interface. On the left, there are icons for Python, a search icon, and a database icon. The main editor area is titled 'main.py' and contains the following code:

```
1 text = "is fun!"
2 print(text.endswith("fun!"))
3
```

On the right, there is a 'Run' button and an 'Output' panel. The 'Output' panel displays the result of the program execution:

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

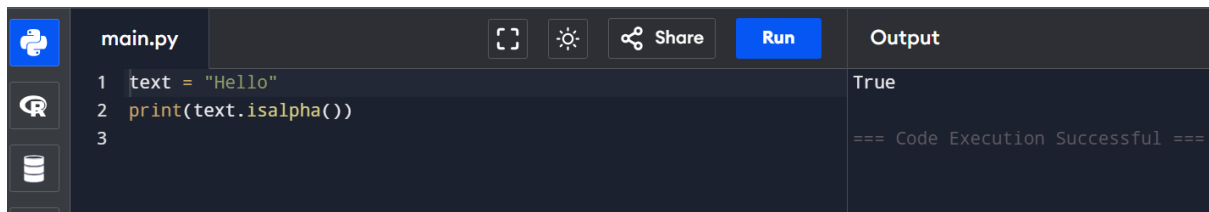
#### 16. isalpha() - Check if all characters are alphabets

#Python Program

#Simple string program using built in function

```
text = "Hello"
```

```
print(text.isalpha()) # Output: True
```



A screenshot of a Python IDE interface. The editor shows a file named `main.py` with the following code:

```
1 text = "Hello"
2 print(text.isalpha())
3
```

The output pane on the right displays `True` and a success message: `=== Code Execution Successful ===`. The IDE includes icons for file explorer, search, and a 'Share' button.

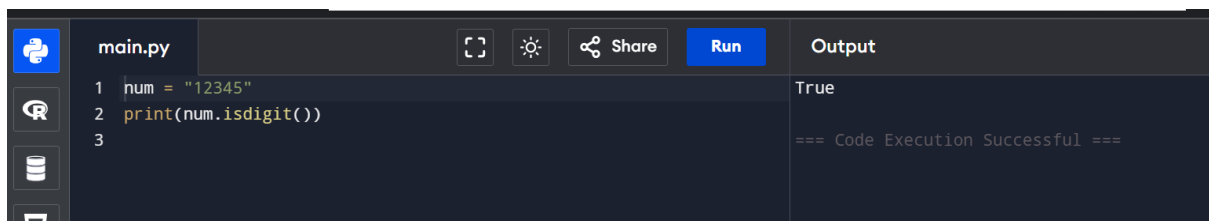
## 17. isdigit() - Check if all characters are digits

#Python Program

#Simple string program using built in function

```
num = "12345"
```

```
print(num.isdigit()) # Output: True
```



A screenshot of a Python IDE interface. The editor shows a file named `main.py` with the following code:

```
1 num = "12345"
2 print(num.isdigit())
3
```

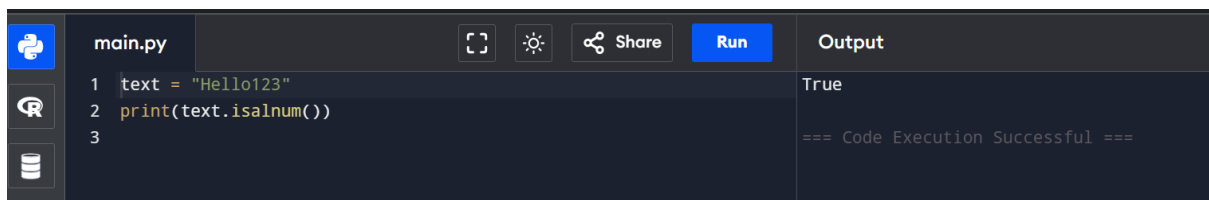
The output pane on the right displays `True` and a success message: `=== Code Execution Successful ===`. The IDE includes icons for file explorer, search, and a 'Share' button.

## 18. isalnum() - Check if string is alphanumeric

#Python Program

#Simple string program using built in function

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



A screenshot of a Python IDE interface. The editor shows a file named `main.py` with the following code:

```
1 text = "Hello123"
2 print(text.isalnum())
3
```

The output pane on the right displays `True` and a success message: `=== Code Execution Successful ===`. The IDE includes icons for file explorer, search, and a 'Share' button.

## 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**

  	<b>main.py</b> <pre>1 text = "Hello #Python Program" 2 print(text.swapcase())</pre>	   Share <b>Run</b>	<b>Output</b> hELLO #pYTHON pROGRAM  === Code Execution Successful ===
---	--	---	---







**20. zfill() - Pad string with zeros**

**#Python Program**

**#Simple string program using built in function**

**text = "42"**

**print(text.zfill(5))**

  	<b>main.py</b> <pre>1 text = "42" 2 print(text.zfill(5)) 3</pre>	   Share <b>Run</b>	<b>Output</b> 00042  === Code Execution Successful ===
---	---	---	---