Muhamad Naqib bin Muhamad Shukri 22.4 16 November 2023

**Trace Table of a Factorial Function**

Number of the input = 5

|  |  |  |  |
| --- | --- | --- | --- |
| nth call | Number | Answer | Return |
| 1 | 5 | 5 \* factorial (4) |  |
| 2 | 4 | 4 \* factorial (3) |  |
| 3 | 3 | 3 \* factorial (2) |  |
| 4 | 2 | 2 \* factorial (1) |  |
| 5 | 1 | 1 \* factorial (0) |  |
| 6 | 0 | 1 |  |
| 5 | 1 | 1 \* 1 | 1 |
| 4 | 2 | 2 \* 1 | 2 |
| 3 | 3 | 3 \* 2 | 6 |
| 2 | 4 | 4 \* 6 | 24 |
| 1 | 5 | 5 \* 24 | 120 |

Output = 120

// Factorial of input 5 = 120

**Program Code of a Factorial Function**

number = int(input("Please enter an integer: "))  
  
def factorial(number):  
 if number == 0:  
 answer = 1  
 else:  
 answer = number \* factorial(number - 1)  
 return answer  
  
result = factorial(number)  
print("The factorial of ", number, "is:")  
print(result)

**Output of the Program Code**

