

**Write a Python function that calculates the factorial of a given non-negative integer. Use recursion to implement this function.**

**CODE:**

```
def factorial(n):
    if n == 0 or n == 1:
        return 1
    else:
        return n * factorial(n - 1) # Recursive call
num = int(input("Enter a non-negative integer: "))
if num < 0:
    print("Factorial is not defined for negative numbers.")
else:
    result = factorial(num)
    print(f"The factorial of {num} is: {result}")
```

**OUTPUT:**

```
PS C:\Users\ACER\python> c:; cd 'c:\Users\ACER\python'; & 'c:\Users\ACER\AppData\Local\Programs\Python\Python314\python.exe' 'c:\Users\ACER\.vscode\extensions\ms-python.develpy-2025.14.1-win32-x64\bundled\libs\debugpy\launcher' '57511' '--' 'c:\Users\ACER\pyt
Factorial.py'
Enter a non-negative integer: 45
The factorial of 45 is: 119622208654801945619631614956577150643837337600000000000
PS C:\Users\ACER\python> [
```