Task1:

```
# 1. Function to multiply two numbers and return the result
def multiply(a, b):
    return a * b
print("Multiplication =", multiply(4, 5))

# 2. Function to check whether a number is even or odd
def even_odd(num):
    if num % 2 == 0:
        return "Even"
    else:
        return "Odd"
print(even_odd(7))

# 3. Function to find the maximum of three numbers
def maximum(a, b, c):
    return max(a, b, c)
print("Maximum number =", maximum(10, 25, 15))

# 4. Function to calculate the factorial of a number
def factorial(n):
    fact = 1
    for i in range(1, n + 1):
        fact = fact * i
    return fact
print("Factorial =", factorial(5))

# 5. Function to count vowels in a given string
def count_vowels(text):
    count = 0
    for ch in text:
        if ch in "aeiouAEIOU":
            count += 1
    return count
```

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print("Vowels count =", count_vowels("Python Programming"))

# 6. Function to reverse a string
def reverse_string(text):
    return text[::-1]
print("Reversed string =", reverse_string("Python"))

# 7. Function to check if a number is prime
def is_prime(num):
    if num <= 1:
        return "Not Prime"
    for i in range(2, num):
        if num % i == 0:
            return "Not Prime"
    return "Prime"
print(is_prime(7))

# 8. Function using default arguments
def greet(name="Student"):
    print("Hello", name)
greet()
greet("Adam")

# 9. Function using keyword arguments
def student_info(name, age):
    print("Name:", name)
    print("Age:", age)
student_info(age=20, name="steve")

# 10. Recursive function to calculate Fibonacci series
def fibonacci(n):
    if n <= 1:
        return n
    else:
```

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    return fibonacci(n-1) + fibonacci(n-2)
print("Fibonacci series:")
for i in range(6):
    print(fibonacci(i), end=" ")

# 11. Lambda function to find the square of a number
square = lambda x: x * x
print("Square =", square(6))
```

Output:

```
PS D:\Internship\Day8> python task1.py
Multiplication = 20
Odd
Maximum number = 25
Factorial = 120
Vowels count = 4
Reversed string = nohtyP
Prime
Hello Student
Hello Adam
Name: steve
Age: 20
Fibonacci series:
0 1 1 2 3 5 Square = 36
```

Task2:

```
# 1. Handle ZeroDivisionError
try:
    a = int(input("Enter numerator: "))
    b = int(input("Enter denominator: "))
    result = a / b
    print("Result =", result)
except ZeroDivisionError:
    print("Error: Cannot divide by zero")

# 2. Handle ValueError when converting input to integer
try:
    num = int(input("Enter a number: "))
    print("You entered:", num)
```

```
except ValueError:
    print("Error: Please enter a valid integer")

# 3. Program using try and except
try:
    x = int(input("Enter a number: "))
    print("Square =", x * x)
except:
    print("Error occurred")

# 4. Program using try, except, else
try:
    num = int(input("Enter a number: "))
except ValueError:
    print("Invalid input")
else:
    print("Number entered:", num)
    print("Square =", num * num)

# 5. Program using try, except, finally
try:
    a = int(input("Enter first number: "))
    b = int(input("Enter second number: "))
    print("Division =", a / b)
except ZeroDivisionError:
    print("Cannot divide by zero")
finally:
    print("Program execution completed")

# 6. Handle TypeError
try:
    a = 10
    b = "Python"
    print(a + b)
```

```
except TypeError:
    print("Error: Cannot add integer and string")


# 7. Handle multiple exceptions in a single try block
try:
    num = int(input("Enter a number: "))
    result = 10 / num
    print("Result =", result)
except (ValueError, ZeroDivisionError):
    print("Error: Invalid input or division by zero")


# 8. Raise an exception using raise keyword
age = int(input("Enter age: "))
if age < 18:
    raise Exception("Age must be 18 or above")
else:
    print("Eligible to vote")
```

Output:

```
PS D:\Internship\Day8> python task2.py
Enter numerator: 2
Enter denominator: 0
Error: Cannot divide by zero
Enter a number: 25
You entered: 25
Enter a number: 4
Square = 16
Enter a number: 8
Number entered: 8
Square = 64
Enter first number: 8
Enter second number: 2
Division = 4.0
Program execution completed
Error: Cannot add integer and string
Enter a number: 5
Result = 2.0
Enter age: 21
Eligible to vote
```