Zaeem Sheikh

S2023266043

Python Practice Programs (loop and functions)

## 1. Print numbers from one to N

n = int(input("Enter a number: "))  
for i in range(1, n+1):  
 print(i)  
  
# Example Input/Output  
# Enter a number: 5  
# 1  
# 2  
# 3  
# 4  
# 5

## 2. Print first N even numbers

n = int(input("Enter how many even numbers: "))  
for i in range(2, 2\*n+1, 2):  
 print(i)  
  
# Example Input/Output  
# Enter how many even numbers: 3  
# 2  
# 4  
# 6

## 3. Print first N odd numbers

n = int(input("Enter how many odd numbers: "))  
for i in range(1, 2\*n, 2):  
 print(i)  
  
# Example Input/Output  
# Enter how many odd numbers: 4  
# 1  
# 3  
# 5  
# 7

## 4. Sum of numbers from 1 to N

n = int(input("Enter a number: "))  
total = 0  
for i in range(1, n+1):  
 total += i  
print("Sum:", total)  
  
# Example Input/Output  
# Enter a number: 4  
# Sum: 10

## 5. Multiplication table of a number

n = int(input("Enter a number: "))  
for i in range(1, 11):  
 print(n, "x", i, "=", n \* i)  
  
# Example Input/Output  
# Enter a number: 3  
# 3 x 1 = 3  
# 3 x 2 = 6  
# 3 x 3 = 9  
# ...  
# 3 x 10 = 30

## 6. Square of numbers from one to N

n = int(input("Enter a number: "))  
for i in range(1, n+1):  
 print(i, "squared is", i\*\*2)  
  
# Example Input/Output  
# Enter a number: 3  
# 1 squared is 1  
# 2 squared is 4  
# 3 squared is 9

## 7. Factorial of a number

n = int(input("Enter a number: "))  
fact = 1  
for i in range(1, n+1):  
 fact \*= i  
print("Factorial:", fact)  
  
# Example Input/Output  
# Enter a number: 5  
# Factorial: 120

## 8. Reverse count from N down to 1

n = int(input("Enter a number: "))  
for i in range(n, 0, -1):  
 print(i)  
  
# Example Input/Output  
# Enter a number: 5  
# 5  
# 4  
# 3  
# 2  
# 1

## 9. Print sum of even numbers up to N

n = int(input("Enter a number: "))  
total = 0  
for i in range(2, n+1, 2):  
 total += i  
print("Sum of even numbers:", total)  
  
# Example Input/Output  
# Enter a number: 9  
# Sum of even numbers: 20

## 10. Print sum of odd numbers up to N

n = int(input("Enter a number: "))  
total = 0  
for i in range(1, n+1, 2):  
 total += i  
print("Sum of odd numbers:", total)  
  
# Example Input/Output  
# Enter a number: 3  
# Sum of odd numbers: 4

## 11. Find square of a number using a function

def square(num):  
 return num \*\* 2  
  
n = int(input("Enter a number: "))  
print("Square:", square(n))  
  
# Example Input/Output  
# Enter a number: 4  
# Square: 16

## 12. Find cube of a number using a function

def cube(num):  
 return num \*\* 3  
  
n = int(input("Enter a number: "))  
print("Cube:", cube(n))  
  
# Example Input/Output  
# Enter a number: 999  
# Cube: 997002999

## 13. Check if number is even or odd using a function

def check\_even\_odd(num):  
 if num % 2 == 0:  
 return "Even"  
 else:  
 return "Odd"  
  
n = int(input("Enter a number: "))  
print("Result:", check\_even\_odd(n))  
  
# Example Input/Output  
# Enter a number: 23  
# Result: Odd

## 14. Find maximum of two numbers using a function

def maximum(a, b):  
 return a if a > b else b  
  
x = int(input("Enter first number: "))  
y = int(input("Enter second number: "))  
print("Maximum:", maximum(x, y))  
  
# Example Input/Output  
# Enter first number: 23  
# Enter second number: 21  
# Maximum: 23

## 15. Find factorial of a number using a function

def factorial(num):  
 fact = 1  
 for i in range(1, num+1):  
 fact \*= i  
 return fact  
  
n = int(input("Enter a number: "))  
print("Factorial:", factorial(n))  
  
# Example Input/Output  
# Enter a number: 25  
# Factorial: 15511210043330985984000000

## 16. Find square of a number using a lambda function

square = lambda num: num \*\* 2  
n = int(input("Enter a number: "))  
print("Square:", square(n))  
  
# Example Input/Output  
# Enter a number: 21  
# Square: 441

## 17. Find cube of a number using a lambda function

cube = lambda num: num \*\* 3  
n = int(input("Enter a number: "))  
print("Cube:", cube(n))  
  
# Example Input/Output  
# Enter a number: 4  
# Cube: 64

## 18. Check if number is even or odd using a lambda function

check\_even\_odd = lambda num: "Even" if num % 2 == 0 else "Odd"  
n = int(input("Enter a number: "))  
print("Result:", check\_even\_odd(n))  
  
# Example Input/Output  
# Enter a number: 23  
# Result: Odd

## 19. Find maximum of two numbers using a lambda function

maximum = lambda a, b: a if a > b else b  
x = int(input("Enter first number: "))  
y = int(input("Enter second number: "))  
print("Maximum:", maximum(x, y))  
  
# Example Input/Output  
# Enter first number: 21  
# Enter second number: 222  
# Maximum: 222

## 20. Find factorial of a number using a lambda function and reduce()

from functools import reduce  
factorial = lambda n: reduce(lambda x, y: x \* y, range(1, n+1), 1)  
n = int(input("Enter a number: "))  
print("Factorial:", factorial(n))  
  
# Example Input/Output  
# Enter a number: 5  
# Factorial: 120