

1. Program to Check if a Number is Odd or Even

```
print("Check if a Number is Odd or Even.")
num = int(input("Enter your number you want to check: "))
if num%2==0:
    print("\nYour number", num, "is: even\n\nProgram end.")
else:
    print("\nYour number", num, "is: odd\n\nProgram end.")
```

```
➞ Check if a Number is Odd or Even.
Enter your number you want to check: 12

Your number 12 is: even

Program end.
```

2. Program to Check Leap Year

```
print("Program for Checking Leap Year")
year = int(input("Enter year you want to check: "))
if year%4 == 0:
    print("The year:", year, "is a Leap Year.")
else:
    print("The year:", year, "is not Leap Year.")
```

```
➞ Program for Checking Leap Year
Enter year you want to check: 2002
The year: 2002 is not Leap Year.
```

3. Program to Find the Largest Among Three Numbers

```
print("Find the Largest Among Three Numbers")
largeNum = 0
for i in range(3):
    num = int(input("Enter your number: "))
    if num > largeNum:
        largeNum = num
print("Your largest number is:", largeNum)
```

```
➞ Find the Largest Among Three Numbers
Enter your number: 12
Enter your number: 25
Enter your number: 20
Your largest number is: 25
```

4. Program to Check Prime Number

```
def is_prime(num):
    if num <= 1:
        return False
    for i in range(2, int(num**0.5) + 1):
        if num % i == 0:
            return False
    return True

num = 17
print(num, "is prime:", is_prime(num))
```

⇒ 17 is prime: True

5. Program to Print all Prime Numbers in an Interval

```
def is_prime(num):
    if num <= 1:
        return False
    for i in range(2, int(num**0.5) + 1):
        if num % i == 0:
            return False
    return True

def primes_in_interval(start, end):
    primes = []
    for num in range(start, end + 1):
        if is_prime(num):
            primes.append(num)
    return primes

start, end = 10, 50
print("Prime numbers between", start, "and", end, ":", primes_in_interval(start, end))
```

⇒ Prime numbers between 10 and 50 : [11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47]

6. Program to Find the Factorial of a Number

```
def factorial(n):
    if n == 0 or n == 1:
        return 1
    else:
        return n * factorial(n - 1)

num = 5
print("Factorial of", num, "is:", factorial(num))
```

⇒ Factorial of 5 is: 120

7. Program to Display the multiplication Table

```
def multiplication_table(n):
    for i in range(1, 11):
        print(f"{n} x {i} = {n * i}")

number = int(input("Enter your number: "))
multiplication_table(number)
```

⇒ Enter your number: 12
12 x 1 = 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120

8. Program to Print the Fibonacci sequence

```
def fibonacci(n):
    sequence = [0, 1]
    for i in range(2, n):
        sequence.append(sequence[-1] + sequence[-2])
    return sequence[:n]

terms = int(input("Enter your nubmer: "))
print("Fibonacci sequence:", fibonacci(terms))
```

```
➞ Enter your nubmer: 12
Fibonacci sequence: [0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89]
```

9. Program that prompts the user for several gallons of gasoline. Reprint that value along with its conversion equivalent number of liters

```
def gallons_to_liters(gallons):
    liters = gallons * 3.78541
    return liters

gallons = float(input("Enter gallons: "))
print(f"{gallons} gallons is equivalent to {gallons_to_liters(gallons):.2f} liters.")
```

```
➞ Enter gallons: 24.55
24.55 gallons is equivalent to 92.93 liters.
```

10. Program that allows a user to enter his or her two favourite foods. The program should then print out the name of a new food by joining the original food names together

```
food1 = input("Enter your first favorite food: ")
food2 = input("Enter your second favorite food: ")
new_food = food1 + food2
print("Your new food is:", new_food)
```

```
➞ Enter your first favorite food: Sev
Enter your second favorite food: Paneer
Your new food is: SevPaneer
```

11. Tipper program where the user enters a restaurant bill total. The program should then display two amounts: a 15 percent tip and a 20 percent tip

```
bill = float(input("Enter the total bill amount: "))
tip_15 = bill * 0.15
tip_20 = bill * 0.20
print(f"15% tip: ${tip_15:.2f}")
print(f"20% tip: ${tip_20:.2f}")
```

```
➞ Enter the total bill amount: 200
15% tip: $30.00
20% tip: $40.00
```

12. Car Salesman program where the user enters the base price of a car. The program should add on a bunch of extra fees such as tax, license, dealer prep, and destination charge. Make tax and license a percent of the base price. The other fees should be set values. Display the actual price of the car once all the extras are applied

```
base_price = float(input("Enter the base price of the car: "))
tax_rate = 0.1 # 10%
license_rate = 0.05 # 5%
dealer_prep = 500
destination_charge = 1000

tax = base_price * tax_rate
license_fee = base_price * license_rate
total_price = base_price + tax + license_fee + dealer_prep + destination_charge

print(f"Base Price: ${base_price:.2f}")
print(f"Tax: ${tax:.2f}")
print(f"License Fee: ${license_fee:.2f}")
print(f"Dealer Prep: ${dealer_prep:.2f}")
print(f"Destination Charge: ${destination_charge:.2f}")
print(f"Total Price: ${total_price:.2f}")
```

```
➞ Enter the base price of the car: 214500
Base Price: $214500.00
Tax: $21450.00
License Fee: $10725.00
Dealer Prep: $500.00
Destination Charge: $1000.00
Total Price: $248175.00
```

13. Program with a function that calculates the area of a circle by taking a radius from the user

```
import math

def area_of_circle(radius):
    return math.pi * radius**2

# Example
radius = float(input("Enter the radius of the circle: "))
print(f"Area of the circle: {area_of_circle(radius):.2f}")
```

```
➞ Enter the radius of the circle: 6
Area of the circle: 113.10
```

14. own sum function called my Sum that takes a list as a parameter and returns the accumulative sum bold text bold text bold text

```
def mySum(numbers):
    total = 0
    for num in numbers:
        total += num
    return total

numbers = [1, 2, 3, 4, 5]
print("Sum of numbers:", mySum(numbers))
```

```
➞ Sum of numbers: 15
```