1. Write a program that prompts the user to input a number and display if the number is even or odd.

In [5]:
```
num=int(input("Enter any Positive Number:"))
if num % 2:
    print(f"The number {num} is odd")
else:
    print(f"The number is {num} is even")
```

```
The number is 2 is even
```

2. Write a Python program that takes an age as input and determines whether a person

is eligible to vote. If the age is 18 or above, print "You are eligible to vote." Otherwise, print "You are not eligible to vote yet.".

In [7]:
```
age=float(input("Enter your age:"))
if age >= 18:
    print("You are eligible to vote")
else:
    print("You are not eligible to vote")
```

```
You are eligible to vote
```

3. Write a program that prompts the user to input two integers and outputs the largest.

In [8]:
```
n1=float(input("Enter your fisrt Number:"))
n2=float(input("Enter your second Number:"))
if n1>n2:
    print("The First number is greater...")
else:
    print("The second number is greater..")
```

```
The First number is greater...
```

4. Write a program that prompts the user to enter a number and determines whether it

is positive, negative, or zero. The program should print "Positive" if the number is greater than 0, "Negative" if the number is less than 0, and "Zero" if the number is 0.

In [17]:
```
num=float(input("Enter any Number:"))
if num>=1:
    print("The number is Positive")
elif num == 0:
    print("The Number Is Zero")
elif num<1:
    print("THe Number is Negative")
```

```
The Number Is Zero
```

5. Write a program that prompts the user to enter their age and prints the

corresponding age group. The program should use the following age groups: 0-12: Child 13-19: Teenager 20-59: Adult 60 and above: Senior Citizen

In [22]:
```
age=float(input("Enter Your Age:"))
if age >0 and age <=12:
    print("You are a Child..")
elif age>=13 and age <=19:
    print("You are a Teenager..")
elif age>=20 and age <=59:
    print("You are an Adult...")
else:
    print("You are a Senior Citizen..")
```

```
You are a Senior Citizen..
```

6. Write a program that prompts the user to input a number from 1 to 7. The program

should display the corresponding day for the given number. For example, if the user types 1, the output should be Sunday. If the user types 7, the output should be Saturday. If the number is not between 1 to 7 user should get error message as shown in sample output.

In [24]:
```
day=int(input("Enter a number from 1 to 7:"))
if day == 1:
    print("Today is Monday")
elif day == 2:
    print("Today is Tuesday")
elif day == 3:
    print("Today is Wensday")
elif day == 4:
    print("Today is Thursday")
elif day == 5:
    print("Today is Friday")
elif day == 6:
    print("Today is Saturday")
elif day == 7:
    print("Today is Sunday")
else:
    print("Invalid Number")
```

```
Invalid Number
```

7. Write a program that prompts the user to enter their weight (in kilograms) and height

(in meters). The program should calculate the Body Mass Index (BMI) using the formula: BMI = weight / (height * height). The program should then classify the BMI into one of the following categories: less than 18.5 - Underweight BMI between 18.5 and 24.9 - Normal weight BMI between 25 and 29.9 - Overweight BMI 30 or greater - Obesity

In [49]:
```
weight=float(input("Enter your weight in Kg:"))
height=float(input("Enter your height in meter:"))
BMI= weight / (height * height)
if BMI < 18.5:
    print("Under Weight")
elif BMI >=18.5 and BMI <=24.9:
    print("Normal Weight")
elif BMI >=25 and BMI <=29.9:
    print("Overweight")
elif BMI >30:
    print("Obesity")
```

```
Normal Weight
```

8. The marks obtained by a student in 3 different subjects are input by the user. Your

program should calculate the average of subjects and display the grade. The student gets a grade as per the following rules: Average Grade 90-100 A 80-89 B 70-79 C 60-69 D 0-59 F

In [60]:
```
english=float(input("Enter the marks of English:"))
math=float(input("Enter the marks of Math:"))
computer=float(input("Enter the marks of Computer:"))
average=(english+math+computer)/3
if average >=90:
    print(f"Your average is {average:.2f} and your grade is A")
elif average >=80 and average <=89:
    print(f"Your average is {average:.2f} and your grade is B")
elif average >=70 and average <=79:
    print(f"Your average is {average:.2f} and your grade is C")
elif average >=60 and average <=69:
    print(f"Your average is {average:.2f} and your grade is D")
elif average >=0 and average <=59:
    print(f"Your average is {average:.2f} and your grade is F")
```

```
Your average is 80.00 and your grade is B
```

9. The roots of the quadratic equation ax2

- bx + c = 0, a ≠ 0 are given by the following

formula: In this formula, the term b2

- 4ac is called the discriminant. If b2
- 4ac = 0, then the

equation has two equal roots. If b2`

- 4ac > 0, the equation has two real roots. If b2
- 4ac < 0, the equation has two

complex roots. Write a program that prompts the user to input the value of a (the coefficient of x2), b (the coefficient of x), and c (the constant term) and outputs the roots of the quadratic equation.

In [2]:
```
b=float(input("Enter the value of b:"))
a=float(input("Enter the value of a:"))
c=float(input("Enter the value of c:"))
if b<0:
    qf=(-b*-b**2 - 4*a*c)/2
else:
    qf=(-b*b**2 - 4*a*c)/2
print(f"""
        Then value of x = {qf}
""")
```

```
       Then value of x = -28.0
```

10. Write a program that prompts the user to enter three numbers and sorts them in

ascending order. The program should print the sorted numbers.

In [15]:
```
n1=int(input("Enter your first number:"))
n2=int(input("Enter your second number:"))
n3=int(input("Enter your third number:"))
numbers=[n1,n2,n3]
numbers.sort()
print(f"The sorted Numbers are :{numbers}")
```

```
The sorted Numbers are :[2, 3, 5]
```

11. Write a program that prompts the user to input three integers and outputs the largest.

In [17]:
```
n1=int(input("Enter your first number:"))
n2=int(input("Enter your second number:"))
n3=int(input("Enter your third number:"))
if n1>n2 and n1>n3:
    print(f"{n1} is the largest")
elif n2>n1 and n2>n3:
    print(f"{n2} is the largest")
elif n3>n1 and n3>n2:
    print(f"{n3} is the largest")
```

```
423 is the largest
```

12. Write a program that prompts the user to input a character and determine the

character is vowel or consonant.

In [21]:
```
text=input("Enter a Aplhabet:")
if text == "a":
    print(f"{text} is  Vowel")
elif text == "e":
    print(f"{text} is  Vowel")
elif text == "i":
    print(f"{text} is  Vowel")
elif text == "o":
    print(f"{text} is  Vowel")
elif text == "u":
    print(f"{text} is  Vowel")
else:
    print(f"{text} is constant")
```

```
t is constant
```

13. Write a program that prompts the user to input a year and determine whether the

year is a leap year or not. Leap Years are any year that can be evenly divided by 4. A year that is evenly divisible by 100 is a leap year only if it is also evenly divisible by 400. Example: 1992 Leap Year 2000 Leap Year 1900 NOT a Leap Year 1995 NOT a Leap Year `

In [11]:
```
year=int(input("Enter any Number:"))
if year % 4 :
    print("Its not a leap year:")
else:
    print("Its a leap year")
```

```
Its a leap year
```

14. Write a program that prompts the user to input number of calls and calculate the

monthly telephone bills as per the following rule:

```
    -Minimum Rs. 200 for up to 100 calls.
    -Plus Rs. 0.60 per call for next 50 calls.
    -Plus Rs. 0.50 per call for next 50 calls.
    -Plus Rs. 0.40 per call for any call beyond 200 calls.
```

In [6]:
```
calls=int(input("Enter the number of calls:"))
if calls <= 100:
    bill = 200
elif calls <= 150:
    bill = 200 + (calls - 100) * 0.60
elif calls <= 200:
    bill = 200 + 50 * 0.60 + (calls - 150) * 0.50
else:
    bill = 200 + 50 * 0.60 + 50 * 0.50 + (calls - 200) * 0.40
print(f"""
            Telephone Bill
----------------------------------------
    Numbers of calls in month = {calls}
    Total bill                : {bill}




""")
```

```
            Telephone Bill
----------------------------------------
    Numbers of calls in month = 120
    Total bill                : 212.0
```

In [ ]:
```

```