**1. Write a program to check if the given number is positive or negative.**

**n = int(input("Enter a number: "))**

**if n > 0:**

**print(n,": is a positive number")**

**else:**

**print(n,": is a negative number")**

**2. Write a program to input any alphabet and check whether it is vowel or consonant.**

**alphabet = input("Enter any alphabet: ")**

**vowel = ['a','e','i','o','u']**

**if alphabet in vowel:**

**print(alphabet,": is a vowel")**

**else:**

**print(alphabet,": is a consonant")**

**3. WAP to input angles of a triangle and check whether triangle is valid or not, and**

**4. WAP to input all sides of a triangle and check whether triangle is valid or not.**

**aa = int(input("Enter an angle of the triangle: "))**

**ba = int(input("Enter an angle of the triangle: "))**

**ca = int(input("Enter an angle of the triangle: "))**

**sum\_of\_angles = aa + ba + ca**

**if sum\_of\_angles == 180:**

**print("It is a valid triangle")**

**else:**

**print("It is an invalid triangle")**

**d = int(input("Enter a side of the triangle: "))**

**e = int(input("Enter a side of the triangle: "))**

**f = int(input("Enter a side of the triangle: "))**

**if (d + e > f) or (d + f > e) or (e + f > d):**

**print("it is a valid triangle")**

**else:**

**print("it is an invalid triangle")**

**5. Write a program to check whether the triangle is equilateral, isosceles or scalene triangle.**

**a = int(input("Enter side one: "))**

**b = int(input("Enter side two: "))**

**c = int(input("Enter side three: "))**

**if a == b == c:**

**print("It is an Equilateral triangle")**

**elif (a == b != c) or (a == c != b) or (b == c != a):**

**print("It is an Isosceles triangle")**

**else:**

**print("It is a Scalene triangle")**

**6. Write a program to calculate profit or loss.**

**cp = int(input("Enter cost price: "))**

**sp = int(input("Enter selling price: "))**

**profit = sp - cp**

**if profit > 0:**

**print("It is Profitable by ", profit)**

**else:**

**print("It is in Loss by ", profit)**

**7. WAP to check if user has entered correct userid and password, and**

**8. WAP to prompt user to enter userid and password. After verifying userid and password display a 4 digit random number and ask user to enter the same. If user enters the same number then show him success message otherwise failed. (Something like captcha)**

**first\_name = input("Enter first name : ")**

**last\_name = input("Enter last name: ")**

**user\_id = input("Enter user id with gmail: ")**

**password = int(input("Enter password with integers: "))**

**if (first\_name in user\_id) and (last\_name in user\_id) and ("@gmail.com" in user\_id):**

**print("User\_id is correct")**

**else:**

**print("User\_id is not correct")**

**if type(password) == int:**

**print("Password is correct")**

**else:**

**print("Password is not correct")**

**random\_num = 8576**

**print(random\_num)**

**user\_num = int(input("Enter the 4 digit number: "))**

**if user\_num == random\_num:**

**print("Verification Successful!")**

**else:**

**print("Verification Unsuccessful.")**

**9. Input 5 subject marks from user and display grade(eg.First class,Second class ..)**

**maths = int(input("Enter your maths marks out of 100: "))**

**science = int(input("Enter your science marks out of 100: "))**

**english = int(input("Enter your english marks out of 100: "))**

**history = int(input("Enter your history marks out 100: "))**

**marathi = int(input("Enter your marathi marks out 100: "))**

**total\_marks = ((maths + science + english + history + marathi) / 500) \* 100**

**if total\_marks >= 60:**

**print("First Class")**

**elif (total\_marks >= 50) and (total\_marks < 60):**

**print("Second Class")**

**elif (total\_marks >= 30) and (total\_marks < 50):**

**print("Pass")**

**else:**

**print("Fail")**

**10. Write a program to check if person is eligible to marry or not (male age >=21 and female age>=18)**

**age = int(input("Enter age: "))**

**gender = input("Enter gender, f or m: ")**

**if (age >= 18) and (gender == "f"):**

**print("Eligible for marriage")**

**elif (age >= 21) and (gender == "m"):**

**print("Eligible for marriage")**

**else:**

**print("Not eligible for marriage")**

**11. Accept age of five people and also per person ticket amount and then calculate total amount to ticket to travel for all of them based on following condition :**

**a. Children below 12 = 30% discount**

**b. Senior citizen (above 59) = 50% discount**

**c. Others need to pay full.**

**total\_amt = 0**

**for i in range(5):**

**age = int(input("Enter age: "))**

**ticket\_amt = int(input("Enter ticket amt: "))**

**if age < 12:**

**discount = ticket\_amt \* (30 / 100)**

**ticket\_amt = ticket\_amt - discount**

**elif age >= 59:**

**discount = ticket\_amt \* (50 / 100)**

**ticket\_amt = ticket\_amt - discount**

**else:**

**pass**

**total\_amt += ticket\_amt**

**print("Total amount of tickets is =",total\_amt)**

**12. Write a program to check if given 3 digit number is a palindrome or not.**

**num = int(input("Enter a three digit number: "))**

**last = num % 10**

**quo = num // 10**

**first = quo // 10**

**if first == last:**

**print(num,"is a palindrome")**

**else:**

**print(num,"is not a palindrome")**

**13. Write a program to input electricity unit charges and calculate total electricity bill according to the given condition:**

**a. For first 50 units Rs. 0.50/unit**

**b. For next 100 units Rs. 0.75/unit**

**c. For next 100 units Rs. 1.20/unit**

**d. For unit above 250 Rs. 1.50/unit**

**e. An additional surcharge of 20% is added to the bill**

**elec\_units = int(input("Enter the electricity units : "))**

**tot\_bill = 0**

**if elec\_units <= 50:**

**tot\_bill = elec\_units \* 0.5**

**print("Total Bill is :",tot\_bill)**

**elif elec\_units <= 150 and elec\_units > 50:**

**tot\_bill = (50 \* 0.5) + ((elec\_units - 50) \* 0.75)**

**print("Total Bill is :",tot\_bill)**

**elif elec\_units <= 250 and elec\_units > 150:**

**tot\_bill = (50 \* 0.5) + (100 \* 0.75) + ((elec\_units - 150) \* 1.2)**

**print("Total Bill is :",tot\_bill)**

**else:**

**tot\_bill = (50 \* 0.5) + (100 \* 0.75) + (100 \* 1.2) + ((elec\_units - 250) \* 1.5)**

**print("Total Bill is :",tot\_bill)**

**print('Process Completed')**