**Python Tasks – Day9**

1. **Write a Python program to check whether a number is negative, positive or zero.**

**Ans:**

num = float(input("Enter a number: "))

if num > 0:

print("Positive number")

elif num == 0:

print("Zero")

else:

print("Negative number")

1. **Write a Python program to check whether a number is divisible by 5 and 11 or not.**

**Ans:**

num = int(input("Enter a number: "))

if num % 5 == 0 and num % 11 == 0:

print(num, "is divisible by both 5 and 11")

else:

print(num, "is not divisible by both 5 and 11")

1. **Write a Python program to check whether a year is leap year or not.**

**Ans:**

year = int(input("Enter a year: "))

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):

print(year, "is a leap year")

else:

print(year, "is not a leap year")

1. **Write a Python program to check whether a character is alphabet or not.**

**Ans:**

ch = input("Enter a character: ")

if (ch >= 'a' and ch <= 'z') or (ch >= 'A' and ch <= 'Z'):

print(ch, "is an alphabet")

else:

print(ch, "is not an alphabet")

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

**Ans:**

l = input("Input a letter of the alphabet: ")

if l in ('a', 'e', 'i', 'o', 'u'):

print("%s is a vowel." % l)

elif l == 'y':

print("Sometimes letter y stand for vowel, sometimes stand for consonant.")

else:

print("%s is a consonant." % l)

1. **Write a Python program to input any character and check whether it is alphabet, digit or special character.**

**Ans:**

ch = input("Enter any character: ")

if ((ch >= 'a' and ch <= 'z') or (ch >= 'A' and ch <= 'Z')):

print(ch, "is an alphabet.")

elif (ch >= '0' and ch <= '9'):

print(ch, "is a digit.")

else:

print(ch, "is a special character.")

1. **Write a Python program to check whether a character is uppercase or lowercase alphabet.**

**Ans:**

ch = input("Enter any character: ")

if (ch.isupper()):

print(ch, "is an uppercase alphabet.")

elif (ch.islower()):

print(ch, "is a lowercase alphabet.")

else:

print(ch, "is not an alphabet.")

1. **Write a Python program to input week number and print weekday.**

**Ans:**

weekday = int(input("Enter weekday number (1-7) : "))

if weekday == 1:

print("\nMonday")

elif weekday == 2:

print("\nTuesday")

elif weekday == 3:

print("\nWednesday")

elif weekday == 4:

print("\nThursday")

elif weekday == 5:

print("\nFriday")

elif weekday == 6:

print("\nSaturday")

elif weekday == 7:

print("\nSunday")

else:

print("\nPlease enter any weekday number (1-7)")

1. **Write a Python program to input angles of a triangle and check whether triangle is valid or not.**

**Ans:**

a = int(input('Please Enter the First Angle of a Triangle: '))

b = int(input('Please Enter the Second Angle of a Triangle: '))

c = int(input('Please Enter the Third Angle of a Triangle: '))

# checking Triangle is Valid or Not

total = a + b + c

if total == 180:

print("This is a Valid Triangle")

else:

print("This is an Invalid Triangle")

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

**Ans:**

print("Input lengths of the triangle sides: ")

x = int(input("x: "))

y = int(input("y: "))

z = int(input("z: "))

if x == y == z:

print("Equilateral triangle")

elif x==y or y==z or z==x:

print("isosceles triangle")

else:

print("Scalene triangle")

1. **Write a Python program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:**

**Percentage >= 90% : Grade A**

**Percentage >= 80% : Grade B**

**Percentage >= 70% : Grade C**

**Percentage >= 60% : Grade D**

**Percentage >= 40% : Grade E**

**Percentage < 40% : Grade F**

**Ans:**

def calculate\_grade():

physics = float(input("Enter Physics marks: "))

chemistry = float(input("Enter Chemistry marks: "))

biology = float(input("Enter Biology marks: "))

mathematics = float(input("Enter Mathematics marks: "))

computer = float(input("Enter Computer marks: "))

total\_marks = physics + chemistry + biology + mathematics + computer

percentage = (total\_marks / 500) \* 100

if percentage >= 90:

grade = 'A'

elif percentage >= 80:

grade = 'B'

elif percentage >= 70:

grade = 'C'

elif percentage >= 60:

grade = 'D'

elif percentage >= 40:

grade = 'E'

else:

grade = 'F'

print(f"Total Marks Obtained: {total\_marks}")

print(f"Percentage: {percentage:.2f}%")

print(f"Grade: {grade}")

calculate\_grade()

1. **Write a Python program to input basic salary of an employee and calculate its Gross salary according to following:**

**Basic Salary <= 10000 : HRA = 20%, DA = 80%**

**Basic Salary <= 20000 : HRA = 25%, DA = 90%**

**Basic Salary > 20000 : HRA = 30%, DA = 95%**

**Ans:**

basic\_salary = float(input("Enter Basic Salary: "))

if basic\_salary <= 10000:

hra = basic\_salary \* 0.2

da = basic\_salary \* 0.8

elif basic\_salary <= 20000:

hra = basic\_salary \* 0.25

da = basic\_salary \* 0.9

else:

hra = basic\_salary \* 0.3

da = basic\_salary \* 0.95

gross\_salary = basic\_salary + hra + da

print(f"Gross Salary: {gross\_salary}")

1. **Write a Python Program to input electricity unit charges and calculate total electricity bill according to the given condition:**

**For first 50 units Rs. 0.50/unit  
For next 100 units Rs. 0.75/unit  
For next 100 units Rs. 1.20/unit  
For unit above 250 Rs. 1.50/unit  
An additional surcharge of 20% is added to the bill**

**Ans:**

units = int(input("Enter the number of units consumed: "))

if units <= 50:

amount = units \* 0.50

elif units <= 150:

amount = (50 \* 0.50) + ((units - 50) \* 0.75)

elif units <= 250:

amount = (50 \* 0.50) + (100 \* 0.75) + ((units - 150) \* 1.20)

else:

amount = (50 \* 0.50) + (100 \* 0.75) + (100 \* 1.20) + ((units - 250) \* 1.50)

surcharge = amount \* 0.2

total\_amount = amount + surcharge

print(f"Total Electricity Bill: {total\_amount}")