**Python Tasks – Day9**

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

**num = int(input())**

**if num > 0:**

**print(f'{num} is positive number.')**

**elif num == 0:**

**print(f'{num } is neutral number.')**

**else:**

**print(f'{num} is negative number.')**

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

**num\_1 = int(input())**

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

**print('divisible by 5 and 11')**

**else:**

**print('not divisible by 5 and 11')**

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

**year = int(input().strip())**

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

**print(f'{year} is a leap year')**

**else:**

**print(f'{year} is a not leap year')**

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

**char = input()**

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

**print(char, 'is an Alphabet')**

**else:**

**print(char, 'is not an alphabet')**

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

**alphabet = input().strip().lower()**

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

**consonant = ['b', 'c', 'd', 'f', 'g', 'h', 'j', 'k', 'l', 'm', 'n', 'p', 'q', 'r', 's', 't', 'v', 'w', 'x', 'y', 'z']**

**if alphabet in vowel:**

**print(f'{alphabet} is vowel')**

**elif alphabet in consonant:**

**print(f'{alphabet} is consonant')**

**else:**

**print('invalid input')**

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

**char = input().strip().lower()**

**special\_char = ['!', '@', '#', '$', '%', '^', '&', '\*', '(', ')', '-', '+', '=', '/', '?', '~']**

**if char.isalpha():**

**print(f'{char} is alphabet')**

**elif char.isdigit():**

**print(f'{char} is digit')**

**elif char in special\_char:**

**print(f'{char} is special character')**

**elif char.isalnum():**

**print(f'{char} is alphanumnric')**

**else:**

**print('invalid character')**

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

**char\_1 = input().strip()**

**if char\_1.isupper():**

**print('UpperCase')**

**elif char\_1.islower():**

**print('LowerCase')**

**else:**

**print('invalid input')**

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

**day = ['monday', 'tuesday', 'wednesday', 'thrusday', 'friday', 'saturday', 'sunday']**

**day\_num = int(input('Enter day number 1 - 7: '))**

**print(day[day\_num-1])**

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

**a,b,c = list(map(int, input('Enter angles of triangle : ').strip().split()))**

if a + b + c == 180:

**print('triangle is valid')**

**else:**

**print('not valid')**

1. **Write a Python program to input all sides of a triangle and check whether triangle is valid or not.**
2. **Write a Python program to check whether the triangle is equilateral, isosceles or scalene triangle.**

**a, b, c = list(map(int, input('Enter all sides of triangle : ').split()))**

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

**print('Triangle is equilateral')**

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

**print('Triangle is isosceles')**

**elif a != b != c:**

**print('Triangle is scalene ')**

**else:**

**print('invalid')**

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**

**phy = int(input('Enter marks for physics'))**

**chem = int(input('Enter marks for chemistry'))**

**bio = int(input('Enter marks for biology'))**

**math = int(input('Enter marks for math'))**

**comp = int(input('Enter marks for computer'))**

**total\_marks = 500**

**percentage = ((phy+chem+bio+math+comp)/total\_marks)\*100**

**if percentage >= 90:**

**print('Grade A')**

**elif percentage >= 80:**

**print('Grade B')**

**elif percentage >= 70:**

**print('Grade C')**

**elif percentge >= 60:**

**print('Grade D')**

**elif percentage >= 40:**

**print('Grade E')**

**elif percentage < 40:**

**print('Grade F')**

**else:**

**print('invalid')**

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%**

**salary = int(input('Enter salary : ').strip())**

**if salary <= 10000:**

**HRA = (salary\*20)/100**

**DA = (salary\*80)/100**

**gross\_salary = salary + HRA + DA**

**print('Gross salary is', gross\_salary)**

**elif salary <= 20000:**

**HRA = (salary\*25)/100**

**DA = (salary\*90)/100**

**gross\_salary = salary + HRA + DA**

**print('Gross salary is', gross\_salary)**

**elif salary > 20000:**

**HRA = (salary\*30)/100**

**DA = (salary\*95)/100**

**gross\_salary = salary + HRA + DA**

**print('Gross salary is', 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**

**Solution :**

**units = int(input('Enter units : '))**

**unit\_charges = 0**

**if 0 < units <= 50:**

**unit\_charges = units \* 0.50**

**elif 50 < units <= 150:**

**unit\_charges = (units - 50) \* 0.75 + 25**

**elif 150 < units <= 250:**

**unit\_charges = (units - 150) \* 1.20 + 100**

**elif units > 250:**

**unit\_charges = (units - 250) \* 1.50 + 220**

**additional\_surcharge = (unit\_charges \* 20) / 100**

**electricity\_bill = unit\_charges + additional\_surcharge**

**print('Electricity Bill is : ', electricity\_bill )**