**Task 3 Importing Python modules and packages in python programming (CO1-K3)**

**Problem 1:**

You are given a date. Your task is to find what the day is on that date.

## **Input Format**

A single line of input containing the space separated month, day and year, respectively, in **MM DD YYYY**  format.

## **Constraints**

**2000 < year < 3000**

## **Output Format**

Output the correct day in capital letters.

**Sample Input**

08 05 2015

**Sample Output**

WEDNESDAY

**Program:**

import calendar

# Input format: MM DD YYYY

date\_input = input().split()

month = int(date\_input[0])

day = int(date\_input[1])

year = int(date\_input[2])

# weekday() returns 0=Monday, 6=Sunday

day\_index = calendar.weekday(year, month, day)

# List of days in uppercase

days = ["MONDAY", "TUESDAY", "WEDNESDAY", "THURSDAY", "FRIDAY", "SATURDAY", "SUNDAY"]

print(days[day\_index])

**Problem 2:**

Given a number x, determine whether the given number is Armstrong number or not. A positive integer of n digits is called an Armstrong number of order n (order is number of digits).

Example:

abcd… = pow(a,n) +pow(b,n) + pow(c,n) + pow(d,n) + …..

**Input:**

153

**Output:**

153 is an Armstrong number

1\*1\*1 + 5\*5\*5 + 3\*3\*3 = 153

**Program:**

# Input number (3 digits only)

num = int(input("Enter a 3-digit number: "))

# Extract digits

a = num // 100 # hundreds place

b = (num // 10) % 10 # tens place

c = num % 10 # units place

# Calculate Armstrong sum

armstrong\_sum = (a\*\*3) + (b\*\*3) + (c\*\*3)

# Check Armstrong condition

if armstrong\_sum == num:

print("it is an Armstrong number")

else:

print(" it is not an Armstrong number")

3. A shopkeeper wants a simple calculator program to help during billing. The calculator should:

1. Add two numbers (to combine item costs).
2. Subtract two numbers (to find balance when a customer pays).

Write a Python program that defines two functions:

* One function to add two numbers.
* Another function to subtract two numbers.

**Program:**

def add(a, b):

return a + b

def sub(a, b):

return a - b

# Take input from the user

x = int(input("Enter first number: "))

y = int(input("Enter second number: "))

print("Sum =", add(x, y))

print("Difference =", sub(x, y))

**Program 4:**

A mathematics application requires a user-defined package named **my\_package**.  
The package should contain two modules:

1. **add.py** – defines a function to add two numbers.
2. **sub.py** – defines a function to subtract two numbers.

The package must allow importing these functions directly from the package using the \_\_init\_\_.py file.

Write a **main program** to:

* Import both add and sub functions from the package.
* Perform addition and subtraction for two numbers
* Display the results.

**Program:**

**my\_package/add.py**

def add(a, b):

return a + b

**my\_package/sub.py**

def sub(a, b):

return a – b

**my\_package/\_\_init\_\_.py**

**main.py**

from my\_package.add import add

from my\_package.sub import sub

x = 10

y = 4

print("Sum =", add(x, y))

print("Difference =", sub(x, y))