**Assignment - 7 Full Stack Web Development using Python MySirG**

Match Case

**1. Write a python script to display the number of days in a given month number.**

**def get\_days\_in\_month(month**):

if month == 2:

return 28

elif month in [4, 6, 9, 11]:

return 30

else:

return 31

month\_number = int(input("Enter the month number: "))

days = get\_days\_in\_month(month\_number)

print(f"Number of days in month {month\_number} is {days}.")

**2. Write a menu driven program to perform following operations - Addition, Subtraction,**

**Multiplication, Division**

def add(a, b):

return a + b

def subtract(a, b):

return a - b

def multiply(a, b):

return a \* b

def divide(a, b):

if b != 0:

return a / b

else:

return "Cannot divide by zero."

while True:

print("Select operation:")

print("1. Addition")

print("2. Subtraction")

print("3. Multiplication")

print("4. Division")

print("5. Exit")

choice = int(input("Enter your choice (1-5): "))

if choice == 5:

break

num1 = float(input("Enter the first number: "))

num2 = float(input("Enter the second number: "))

if choice == 1:

print("Result:", add(num1, num2))

elif choice == 2:

print("Result:", subtract(num1, num2))

elif choice == 3:

print("Result:", multiply(num1, num2))

elif choice == 4:

print("Result:", divide(num1, num2))

else:

print("Invalid choice. Please try again.")

**3. Write a menu driven program with the following options:**

**a. Check whether a given set of three numbers are lengths of an isosceles**

**triangle or not**

**b. Check whether a given set of three numbers are lengths of sides of a right**

**angled triangle or not**

**c. Check whether a given set of three numbers are equilateral triangle or not**

**d. Exit.**

def is\_isosceles(a, b, c):

return a == b or b == c or c == a

def is\_right\_angled(a, b, c):

sides = [a, b, c]

sides.sort()

return sides[0]\*\*2 + sides[1]\*\*2 == sides[2]\*\*2

def is\_equilateral(a, b, c):

return a == b and b == c

while True:

print("Select option:")

print("a. Check for isosceles triangle")

print("b. Check for right-angled triangle")

print("c. Check for equilateral triangle")

print("d. Exit")

choice = input("Enter your choice (a-d): ")

if choice == 'd':

break

side1 = float(input("Enter the length of side 1: "))

side2 = float(input("Enter the length of side 2: "))

side3 = float(input("Enter the length of side 3: "))

if choice == 'a':

if is\_isosceles(side1, side2, side3):

print("It is an isosceles triangle.")

else:

print("It is not an isosceles triangle.")

elif choice == 'b':

if is\_right\_angled(side1, side2, side3):

print("It is a right-angled triangle.")

else:

print("It is not a right-angled triangle.")

elif choice == 'c':

if is\_equilateral(side1, side2, side3):

print("It is an equilateral triangle.")

else:

print("It is not an equilateral triangle.")

else:

print("Invalid choice. Please try again.")

**4. Write a program which takes user’s age and display the category of person. Age**

**below 10 years- Kid, Age below 20 - Teen, Age below 40 - young, Age below 60 -**

**Experienced, Age above or equal 60 - Senior Citizen**.

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

if age < 10:

category = "Kid"

elif age < 20:

category = "Teen"

elif age < 40:

category = "Young"

elif age < 60:

category = "Experienced"

else:

category = "Senior Citizen"

print("Category:", category)

**5. Write a program which takes a number from user. Print Saurabh Shukla if the number**

**is even, print Prateek Jain if the number is negative odd number and print Aditya**

**Choudhary if number is positive odd number**.

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

if number % 2 == 0:

name = "Saurabh Shukla"

elif number < 0 and number % 2 != 0:

name = "Prateek Jain"

elif number > 0 and number % 2 != 0:

name = "Aditya Choudhary"

else:

name = "Unknown"

print("Name:", name)

**6. Write a python program to check whether a given string is a multiword string or single**

**word string using match case statement**

import re

text = input("Enter a string: ")

if re.match(r'\w+\s+\w+', text):

print("Multiword string")

else:

print("Single word string")

**7. Write a python program to check whether a given number is positive, negative or**

**zero using match case statement**

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

result = match number:

case 0:

"Zero"

case n if n > 0:

"Positive"

case n if n < 0:

"Negative"

print("Number is:", result)

8. **Write a python script to check whether two given strings are identical, first string**

**comes before the second in dictionary order or first string comes after the second**

**string in dictionary order using match case statement**

string1 = input("Enter the first string: ")

string2 = input("Enter the second string: ")

result = match (string1, string2):

case (string1, string2) if string1 == string2:

"Identical"

case (string1, string2) if string1 < string2:

"First string comes before the second in dictionary order"

case (string1, string2) if string1 > string2:

"First string comes after the second in dictionary order"

print("Comparison result:", result)

**9. Write a python script to check whether a given year is**

**a. Non century leap year**

**b. Century leap year**

**c. Non century non leap year**

**d. Century non leap year**

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

result = match (year % 4 == 0, year % 100 == 0, year % 400 == 0):

case (True, False, \_):

"Non-century leap year"

case (True, True, False):

"Century leap year"

case (False, \_, \_):

"Non-century non-leap year"

case (True, True, True):

"Century non-leap year"

print("Year type:", result)

**10. Write a program to display day name on the basis of user’s liking of a colour. Ask**

**user for his favorite colour. User can answer in a sentence like “I like red colour”.**

**Assuming all colour name entered by user is in lowercase. Use match case to display**

**day name associated with the colour.**

**a. Yellow – Monday**

**b. Blue - Tuesday**

**c. Orange - Wednesday**

**d. White - Thursday**

**e. Black - Friday**

**f. Red - Saturday**

**g. All other colours – Sunday**

color = input("Enter your favorite color: ").lower()

result = match color:

case "yellow":

"Monday"

case "blue":

"Tuesday"

case "orange":

"Wednesday"

case "white":

"Thursday"

case "black":

"Friday"

case "red":

"Saturday"

case \_:

"Sunday"

print("Day name:", result)