Assignment - 7 Match Case

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

```
n=complex(input("Enter a complex number:"))
match n:
  case 1:
    print("Number of days are 31.")
  case 2:
    print("Number of days are 28 or 29.")
  case 3:
    print("Number of days are 31.")
  case 4:
    print("Number of days are 30.")
  case 5:
    print("Number of days are 31.")
  case 6:
    print("Number of days are 30.")
  case 7:
    print("Number of days are 31.")
  case 8:
    print("Number of days are 31.")
  case 9:
    print("Number of days are 30.")
  case 10:
    print("Number of days are 31.")
  case 11:
    print("Number of days are 30.")
```

```
    case 12:
        print("Number of days are 31.")
```

Output:-

```
Enter a complex number:5
Number of days are 31.
```

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

```
print("These are four operations choose any of them:")
print("1.Addition")
print("2.Subtraction")
print("3.Multiplication")
print("4.Division")
n=input("Enter an operation:")
match n:
    case "Addition":
        x=int(input("Enter first number:"))
        y=int(input("Enter second number:"))
        print("Sum is:",x+y)
    case "Subtraction":
        x=int(input("Enter first number:"))
        y=int(input("Enter second number:"))
        print("Subtraction is:",x-y)
    case "Multiplication":
        x=int(input("Enter first number:"))
        y=int(input("Enter second number:"))
        print("Multiplication is:",x*y)
    case "Division":
```

```
x=int(input("Enter first number:"))
y=int(input("Enter second number:"))
print("Division is:",x/y)
```

Output:-

These are four operations choose any of them:

1.Addition

2.Subtraction

3.Multiplication

4.Division

Enter an operation:Addition

Enter first number:5

Enter second number:4

Sum is: 9

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.

```
print("a. Check whether a given set of three numbers are lengths of an isosceles triangle or not.")
print("b. Check whether a given set of three numbers are lengths of sides of a right angled triangle or not.")
print("c. Check whether a given set of three numbers are equilateral triangle or not.")
print("d. Exit.")
```

```
print("Instructions:")
print("Press 1 for option a.")
print("Press 2 for opton b.")
print("Press 3 for opton c.")
print("Press 4 for opton d.")
while True:
    x=int(input("Choose an option:"))
    match x:
        case 1:
            print("Input Lengths  of the triangle sides:")
            a=int(input("x:"))
            b=int(input("y:"))
            c=int(input("z:"))
            if a==b or b==c or a==c:
                print("Isosceles triangle")
            else:
                print("Not a isosceles triangle")
        case 2:
            print("Input Lengths  of the triangle sides:")
            a=int(input("x:"))
            b=int(input("y:"))
            c=int(input("z:"))
            if a>b and a>c:
                k=a
                m=b
                n=c
```

```
        elif b>c and b>a:
            k=b
            m=a
            n=c
        else:
            k=c
            m=a
            n=b
        if k**2==m**2+n**2:
            print("Right angled triangle")
        else:
            print("Not a right angled trianle")
    case 3:
        a=int(input("x:"))
        b=int(input("y:"))
        c=int(input("z:"))
        if a==b==c:
            print("Equilateral triangle")
        else:
            print("Not a equilateral triangle")
    case _:
        print("Invalid Option")
        print("Try Again!")
print("\n")
print("If you want to exit:")
print("Press Y for exit:")
```

```
    print("Press N for continue:")
    y=input("Enter your choice:")
    match y:
        case 'Y':
            break
        case 'N':
            continue
"""
Scalene triangle (All three sides are unequal)
Isosceles triangle (Only two sides are equal)
Equilateral triangle (All three sides are equal)
"""
```

Output:-

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.

Instructions:

Press 1 for option a.

Press 2 for opton b.

Press 3 for opton c.

Press 4 for opton d.

Choose an option:1

Input Lengths of the triangle sides:

x:4

y:5

z:4

Isosceles triangle

If you want to exit:

Press Y for exit:

Press N for continue:

Enter your choice:N

Choose an option:2

Input Lengths of the triangle sides:

x:5

y:4

z:3

Right angled triangle

If you want to exit:

Press Y for exit:

Press N for continue:

Enter your choice:N

Choose an option:3

x:5

y:5

z:5

Equilateral triangle

If you want to exit:

Press Y for exit:

Press N for continue:

Enter your choice:N

Choose an option:5

Invalid Option

Try Again!

If you want to exit:

Press Y for exit:

Press N for continue:

Enter your choice:Y

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: "))
match age:
    case age if age < 10:
        category="Kid"
    case age if age < 20:
        category="Teen"
    case age if age < 40:
        category="Young"
    case age if age < 60:
```

```
        category="Experienced"
    case _:
        category="Senior Citizen"
print(f"You are in the category of:",category)
```

Output:-

```
Enter your age: 45
You are in the category of: Experienced
```

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.

```
n=int(input("Enter a number: "))
match n:
    case n if n>0 and n%2==0:
        print("Saurabh Shukla")
    case n if n<0:
        print("Prateek Jain")
    case n if n>0 and n%2!=0:
        print("Aditya Choudhary")
```

Output:-

```
Enter a number: -6
Prateek Jain
```

6. Write a python program to check whether a given string is a multiword string or single word string using match case statement.

```
string = input("Enter a string: ")
match string:
    case _ if " " in string:
        result="Multiword String"
```

```
    case _:
        result="Single Word String"
print(f"The given string is: {result}")
```

Output:-

```
Enter a string: Tarun Pal
The given string is: Multiword String
```

7. Write a python program to check whether a given number is positive, negative or zero using match case statement.

```
n=int(input("Enter a number:"))
match n:
    case n if n>0:
        print("Number is positive.")
    case n if n<0:
        print("Number is negative.")
    case _:
        print("Number is zero.")
```

Output:-

```
Enter a number:-6
Number is negative.
```

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.

```
x=input("Enter first string:")
y=input("Enter ssecond string:")
match x,y:
    case x,y if x==y:
        print("Both are identical.")
```

```
    case x,y if x>y:
        print("first string comes before the second.")
    case _:
        print("first string comes after the second.")
```

Output:-

```
Enter first string:Pal
Enter ssecond string:Tarun
first string comes after the second.
```

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: "))
match year:
    case _ if year % 4 == 0 and (year % 100 != 0 or year % 400 == 0):
        year_type="Century Leap Year"
    case _ if year % 4 == 0:
        year_type="Non-Century Leap Year"
    case _:
        year_type="Non-Century Non-Leap Year"
print(f"The year {year} is a {year_type}")
```

Output:-

```
Enter a year: 2000
The year 2000 is a Century Leap Year
```

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_sentence = input("Enter your favorite color: ")
color = color_sentence.split()[-1]
match color:
    case "yellow":
        day_name="Monday"
    case "blue":
        day_name="Tuesday"
    case "orange":
        day_name="Wednesday"
    case "white":
        day_name="Thursday"
    case "black":
        day_name="Friday"
    case "red":
        day_name="Saturday"
    case _:
        day_name="Sunday"
print(f"The day associated with the color '{color}' is: {day_name}")
```

Output:-

```
Enter your favorite color: I am orange
The day associated with the color 'orange' is: Wednesday
```