assignment1

October 28, 2024

[5]:
```
#WAP to check whether a number is even or odd
num=int(input("enter a number"))
if(num%2==0):
    print("the number is even")
else:
    print("the number is odd")
```

```
the number is odd
```

[6]:
```
#WAP to check whether a person is eligible for voting
num=int(input("Enter your age"))
if num>18:
    print("You are Eligible for voting")
else:
    print("You are not eligible for voting")
```

```
You are not eligible for voting
```

[12]:
```
#WAP to enter number between 1 to 7 as days of a weekand print the day␣
 ↪accordingly. (monday, tuesday,...) using if elif case
day=int(input("enter the number of days"))
if(day==1):
    print("monday")
elif(day==2):
    print("tuesday")
elif(day==3):
    print("wednesday")
elif(day==4):
    print("thursday")
elif(day==5):
    print("friday")
elif(day==6):
    print("saturday")
elif(day==7):
    print("sunday")
else:
    print("not possible")
```

```
wednesday
```

[14]:
```
#WAP to enter number between 1 to 7 as days of a weekand print the day␣
 ↪accordingly. (monday, tuesday,...) match case
day=int(input("Enter the number of day"))
match day:
    case 1:
        print("Monday")
    case 2:
        print("Tuesday")
    case 3:
        print("Wednesday")
    case 4:
        print("Thursday")
    case 5:
        print("Friday")
    case 6:
        print("Saturday")
    case 7:
        print("Sunday")
    case _:
        print("Impossible")
```

```
Thursday
```

[15]:
```
#WAP tp check wehther the enter year is leap year or not
def CheckLeap(Year):
 # Checking if the given year is leap year
  if((Year % 400 == 0) or (Year % 100 != 0) and (Year % 4 == 0)):
    print("Yes! This Year is a leap Year");
  # Else it is not a leap year
  else:
    print ("This Year is not a leap Year")
# Taking an input year from user
Year = int(input("Enter the number here: "))
# Printing result
CheckLeap(Year)
```

```
This Year is not a leap Year
```

[16]:
```
#WAP to calculate to take in marks of 5 subject, compute the average and␣
 ↪display the grades
sub1=int(input("Enter marks of the first subject: "))
sub2=int(input("Enter marks of the second subject: "))
sub3=int(input("Enter marks of the third subject: "))
sub4=int(input("Enter marks of the fourth subject: "))
sub5=int(input("Enter marks of the fifth subject: "))
```

```
avg=(sub1+sub2+sub3+sub4+sub4)/5
if(avg>=90):
    print("Grade: A")
elif(avg>=80):
    print("Grade: B")
elif(avg>=70):
    print("Grade: C")
elif(avg>=60):
    print("Grade: D")
else:
    print("Grade: F")
```

```
Grade: F
```

[17]:
```
#WAP to input a character, check whether the given character is vowel or␣
 ↪consonant
ch = input("Enter a character: ")

if(ch=='A' or ch=='a' or ch=='E' or ch =='e' or ch=='I'
or ch=='i' or ch=='O' or ch=='o' or ch=='U' or ch=='u'):
    print(ch, "is a Vowel")
else:
    print(ch, "is a Consonant")
```

```
i is a Vowel
```

[20]:
```
#WAP to search an element in list
ls=[10,20,30,40,50,60,70]
search_ele=int(input("enter a number"))
for ele in ls:
    if search_ele==ele:
        print("element found")
        break
else:
    print("element not found")
```

```
element found
```

[23]:
```
#WAP to take a single digit number from the keyboard and print its spelling in␣
 ↪English word using if, elif

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

# For digit 0
if digit == '0':
    print("Zero ", end = " ")
# For digit 1
```

```
elif digit == '1':
    print("One ", end = " ")
# For digit 2
elif digit == '2':
    print("Two ", end = " ")
#For digit 3
elif digit=='3':
    print("Three",end=" ")
# For digit 4
elif digit == '4':
    print("Four ", end = " ")
# For digit 5
elif digit == '5':
    print("Five ", end = " ")
# For digit 6
elif digit == '6':
    print("Six ", end = " ")
# For digit 7
elif digit == '7':
    print("Seven", end = " ")
# For digit
elif digit == '8':
    print("Eight", end = " ")
# For digit 9
elif digit == '9':
    print("Nine ", end = " ")
else:
    print("not found")
```

```
not found
```

[1]:
```
#WAP to input three numbers and arrange them in ascending numbers
x=int(input("Enter a number in x: "))
y=int(input("Enter a number in y: "))
z=int(input("Enter a number in z: "))
if x<y and x<z:
    if y<z:
        min, mid, max=x,y,z
    else:
        min, mid, max=x,z,y
elif y<x and y<z:
    if x<z:
        min, mid, max=y,x,z
    else:
        min, mid, max=y,z,x
else:
    if x<y:
```

```
        min, mid, max=z,x,y
    else:
        min, mid, max=z,y,x

print("min: ",min)
print("mid: ",mid)
print("max: ",max)
```

```
min:  7
mid:  13
max:  2006
```

[2]:
```
#WAP to take a single digit number from the keyboard and print its spelling in␣
 ↪English word using match case
digit= int(input("Enter a single digit number: "))
match digit:
    case (0):
        print("Zero")
    case (1):
        print("One")
    case (2):
        print("Two")
    case (3):
        print("Three")
    case (4):
        print("Four")
    case (5):
        print("Five")
    case (6):
        print("Six")
    case (7):
        print("Seven")
    case (8):
        print("Eight")
    case (9):
        print("Nine")
    case _:
        print("Invalid input. Please enter a single digit number (0-9).")
```

```
Seven
```

[24]:
```
#WAP to read to numbers and arithmetic operator[+,-,*,/,%] perform the␣
 ↪operation and display the computed result
a=int(input("Enter a number: "))
b=int(input("Enter b number: "))

op=input("enter an operator (+,-,*,/,%):")
```

```
if op=='+':
    result == (a+b)
elif op=='-':
    result == (a-b)
elif op=='*':
    result == (a*b)
elif op=='/':
    result == (a/b)
elif op=='%':
    result == (a%b)
else:
    print("wrong operator")
print(a,op,b,"=",result)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[24], line 14
     12     result == (a*b)
     13 elif op=='/':
---> 14     result == (a/b)
     15 elif op=='%':
     16     result == (a%b)

NameError: name 'result' is not defined
```

[4]:
```
#WAP to check whether a inputted character is uppercase or lowercase or digit␣
 ↪or any character

ch=input("Enter a character : ")
if ch>='A' and ch<='Z':
    print("UPPER CASE")
elif ch>='a' and ch<='z':
    print("lower case")
elif ch>='0' and ch<='9':
    print("Digit")
else:
    print("Special Symbol")
```

```
lower case
```

[6]:
```
#develop a number guessing game using loops and conditional statements. ask␣
 ↪user to guess a secret number. if user has not guessed correct number,␣
 ↪provide him/her hin
from random import randint
LOW, HIGH=1,10
```

```
secret_number = randint(LOW,HIGH)
clue=""
while True:
    guess=input(f"guess a number between {LOW} and {HIGH} {clue}")
    number=int(guess)
    if number > secret_number:
        clue=f"(number is less then {number})"
    elif number < secret_number:
        clue =f"(number is greater than {number})"
    else:
        break
print(f"you guessed it! The secret number is {number}")
```

```
you guessed it! The secret number is 6
```

[9]:
```
#WAP to promote user enter name and password until it enters "stud" in name and␣
 ↪"pass" in password. Allow only five attempts
print('enter correct username and password combo to continue')
count=0
while count<3:
    name,pwd=input("enter name and password").split()
    if name=="stud" and pwd=='pass':
        print('Access granted')
        break
    else:
        if count==5:
            print('sorry, attempts completed')
        else:
            print('Access denied. try again.')
            count+=1
```

```
enter correct username and password combo to continue
Access denied. try again.
Access granted
```

[10]:
```
#WAP to display numbers from 15 to 1 in decending order
for i in range(15,1,-1):
    print(i)
```

```
15
14
13
12
11
10
9
8
7
```

```
6
5
4
3
2
```

[11]:
```python
#WAP to display sum of numbers from 11 to 200 using loop
sum=0
for i in range(11,201):
    sum=sum+i
print("sum of series is : ", sum)
```

```
sum of series is :  20045
```

[12]:
```python
#WAP to display average of numbers from 5 to 15 and 21 to 60
sum_numbers = 0
count_numbers = 0

for number in range(5, 16):
    sum_numbers += number
    count_numbers += 1
for number in range(21, 61):
    sum_numbers += number
    count_numbers += 1
average = sum_numbers / count_numbers if count_numbers > 0 else 0
print(f"The average of numbers from 5 to 15 and 21 to 60 is:{average}")
```

```
The average of numbers from 5 to 15 and 21 to 60 is:33.92156862745098
```

[13]:
```python
#WAP to display odd numbers 5 to 30
print("Odd numbers between 5 to 30: ")
for i in range(5,31):
    if i%2==1:
        print(i)
```

```
Odd numbers between 5 to 30:
5
7
9
11
13
15
17
19
21
23
25
27
```

29

[16]:
```
#WAP to find factorial of a number inputted by the user
num= int(input("enter a number: "))

fact=1
a=1
while a<=num:
    fact=fact*a
    a=a+1
print("The factorial of",num, "is",fact)
```

```
The factorial of 7 is 5040
```

[17]:
```
#WAP to find sum of digits of a int number
num1=int(input("enter number 1"))
num2=int(input("enter number 2"))
sum=num1+num2
print("the sum of",num1,"and",num2,"is",sum)

n1=int(input("enter the first number"))
n2=int(input("enter the last number"))
sum=0
i=n1
while i<=n2:
    sum=sum+i
    i=i+1
print("sum is",sum)
```

```
the sum of 3 and 5 is 8
sum is 6
```

[18]:
```
#WAP to display sum of even numbers between 30 to 50
sum_even = 0

# Loop through the range from 30 to 50
for number in range(30, 51):
    if number % 2 == 0: # Check if the number is even
        sum_even += number # Add the even number to the sum

# Output the result
print(f"The sum of even numbers between 30 and 50 is: {sum_even}")
```

```
The sum of even numbers between 30 and 50 is: 440
```

[20]:
```
#WAP to print multiplication table
n=int(input("Enter a number: "))
for i in range(1,21):
```

```
    print(n,"*",i,"=",n*i)
```

```
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
7 * 11 = 77
7 * 12 = 84
7 * 13 = 91
7 * 14 = 98
7 * 15 = 105
7 * 16 = 112
7 * 17 = 119
7 * 18 = 126
7 * 19 = 133
7 * 20 = 140
```

[21]:
```
#WAP to print the following pattern
#1
#2 2
#3 3 3
#4 4 4 4
rows = int(input("Enter number of rows: "))
for i in range(1, rows+1):
    for j in range(1, i+1):
        print(j, end=" ")
    print(' ')
```

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6
1 2 3 4 5 6 7
```

[25]:
```
#WAP to print pattern:
#*
#* *
#* * *
#* * * *
```

```
#* * *
#* *
#*
#ask user to enter the number of rows in the first half
rows = int(input("Enter the number of rows for the first half: "))
for i in range(1, rows + 1):
    print('* ' * i)
for j in range(rows - 1, 0,-1):
    print('* ' * j)
```

```
*
* *
* * *
* * * *
* * *
* *
*
```

[26]:
```
#WAP to print pattern
#A
#B B
#C C C
rows = 9
for i in range(65, rows+65):
    for j in range(65, i+1):
        print(chr(i), end=" ")
    print()
```

```
A
B B
C C C
D D D D
E E E E E
F F F F F F
G G G G G G G
H H H H H H H H
I I I I I I I I I
```

[30]:
```
#WAP to find whether given number is an armstrong number
def is_armstrong_number(num):
    # Convert the number to a string to easily get the digits
    digits = str(num)
    num_digits = len(digits)

    # Calculate the sum of the digits raised to the power of the number of␣
 ↪digits
    sum_of_powers = sum(int(digit) ** num_digits for digit in digits)
```

```
    # An Armstrong number is equal to the sum of its digits raised to the power␣
 ↪of the number of digits
    return sum_of_powers == num

# Input from the user
number = int(input("Enter a number: "))
if is_armstrong_number(number):
    print(f"{number} is an Armstrong number.")
else:
    print(f"{number} is not an Armstrong number.")
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[30], line 15
     13 # Input from the user
     14 number = int(input("Enter a number: "))
---> 15 if is_armstrong_number(number):
     16     print(f"{number} is an Armstrong number.")
     17 else:

Cell In[30], line 8, in is_armstrong_number(num)
      5 num_digits = len(digits)
      7 # Calculate the sum of the digits raised to the power of the number of␣
 ↪digits
----> 8 sum_of_powers = sum(int(digit) ** num_digits for digit in digits)
     10 # An Armstrong number is equal to the sum of its digits raised to the␣
 ↪power of the number of digits
     11 return sum_of_powers == num

TypeError: 'int' object is not callable
```

[32]:
```
#WAP to genrate the fibonnaci series upto n terms
def fibonacci_series(n):
    fib_sequence = []
    a, b = 0, 1 # Starting values of the Fibonacci series

    for _ in range(n):
        fib_sequence.append(a) # Add the current term to the list
        a, b = b, a + b # Update values for the next term

    return fib_sequence

# Input from the user
n = int(input("Enter the number of terms for the Fibonacci series: "))
if n <= 0:
```

```
    print("Please enter a positive integer.")
else:
    series = fibonacci_series(n)
    print(f"Fibonacci series up to {n} terms: {series}")
```

```
Fibonacci series up to 7 terms: [0, 1, 1, 2, 3, 5, 8]
```

[41]:
```
#WAP that check whether a number is prime or not
num=int(input("Enter a number: "))
if num==1:
    print("it is not a prime number")
if num>1:
    for i in range(2,num):
       if num%i==0:
           print("its is not a prime number")
    else:
           print("it is a prime number")
```

```
it is a prime number
```

[49]:
```
#WAP to calculate sum and average of a given array: arr=('i', [1,2,3,4,5])
# Given array
arr = ('i', [1, 2, 3, 4, 5])

# Extracting the list from the tuple
numbers = arr[1]

# Calculating sum and average
total_sum = sum(numbers)
average = total_sum / len(numbers)

# Output the results
print(f"Sum: {total_sum}")
print(f"Average: {average}")
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[49], line 9
      6 numbers = arr[1]
      8 # Calculating sum and average
----> 9 total_sum = (sum(numbers))
     10 average = total_sum / len(numbers)
     12 # Output the results

TypeError: 'int' object is not callable
```

[51]:
```
#Write a Python program to reverse the order of the items in the array.

a=[10,20,30,40,50]
a.reverse()
print(a)
```

```
[50, 40, 30, 20, 10]
```

[54]:
```
#Write a Python program to remove duplicate elements in a given array of␣
 ↪integers

a=[10,10,20,30,40,60,50,70,50,60,80]
non_repeat=[]
for i in a:
    if i not in non_repeat:
        non_repeat.append(i)
print(non_repeat)
```

```
[10, 20, 30, 40, 60, 50, 70, 80]
```

[57]:
```
#Write a program that takes a string as input and prints it in reverse order.

correct=input("Enter a string")
for i in correct[::-1]:
    print(i,end="")
```

```
reemas
```

[59]:
```
#Write a program that counts the number of vowels in a given string.
Sentence="Hello, Learning Python is easy"
vowels=0
for i in Sentence:
    if i in "aeiouAEIOU":
        vowels+=1

print(f'''The number of vowels in "{Sentence}" is {vowels}''')
```

```
The number of vowels in "Hello, Learning Python is easy" is 9
```

[60]:
```
#Write a program that checks if a given string is a palindrome (reads the same␣
 ↪forwards and backwards)
correct=input("Enter a string")
inverse=""
for i in correct[::-1]:
    inverse+=i
if correct==inverse:
    print("The string is a palindrome")
else:
```

```
    print("The string is not a palindrome")
```

```
The string is not a palindrome
```

[62]:
```
#Write a program that removes duplicate characters from a string.
sent1="Hello, my name is Sameer"
sent2=""
for element in sent1:
    if element not in "aeiouAEIOU":
        sent2+=element
print(sent2)
```

```
Hll, my nm s Smr
```

[63]:
```
#WAP to print even length words in string
def print_even_length_words(input_string):
    words = input_string.split()
    even_length_words = [word for word in words if len(word) % 2 == 0]

    print("Even length words:", even_length_words)

input_string = input("Enter a string: ")
print_even_length_words(input_string)
```

```
Even length words: []
```

[65]:
```
#WAP to remove spaces from given string:
sent1="Hello, my name is Sameer"
sent2=""
for element in sent1:
    if element not in " ":
        sent2+=element
print(sent2)
```

```
Hello,mynameisSameer
```

[66]:
```
#WAP to convert given list of ASCII value to string. [65, 66, 67, 68, 69]
str1=[65,67,79,69,72]
sent2=""
for i in str1:
    sent2+=chr(i)
print(sent2)
```

```
ACOEH
```

[68]:
```
#WAP to print the individual characters of the string inputted by user in the␣
 ↪following way
sent=input("Enter a string")
```

```
print(sent.replace("","-"))
#or
for i in sent:
    print(i,end="-")
```

```
-s-a-m-e-e-r-
s-a-m-e-e-r-
```

[ ]: