```
#1.  Write a program to input your name and age, and print
them. name=input('enter name :')
age=input('enter age :')

#2.  Write a program to calculate the area of a circle, where the
radius is input by the user.
a=int(input('enetr radius of circle area :'))
print('radius of circle = ',3.14*a*a)

#3.  Write a program to swap two numbers using a temporary
variable. a=1
b=2

temp=a
a=b
b=temp
print(a,'\n',b)

#4.  Write a program to convert Celsius to Fahrenheit.
a=int(input('enetr temprature in celsius to find in fahrenheit '))
print('convert Celsius to Fahrenheit =',(9/5)*a+32)
#5.  Write a program to check whether a number is even or odd.
a=input('enter num to check num is even or not :')
b=int(a)
if b%2==0:
    print('num is even')
else:
    print('num is not even')
#6.  Write a program to find the largest of three numbers.
x,y,z=1,2,3
if x>y and x>z:
    print(x,' greater')
elif y>x and y>z:
    print(y,' greater')
elif z>x and z>y:
    print(z,' greater')
else:
    print('all equal')
#7.  Write a program to check whether a year is a leap
year. year=int(input('enter a year to chec leap or not :'))
if year%4==0:
    print(year,' is leap year')
else:
    print(year,' not leap year')
#8.  Write a program to classify a person's age:
Age=int(input('enter Age :'))
if   Age < 13 :
    print('Child')
elif 13 <= Age < 20 :
```

```
    print('Teenager')
else:
    print('Adult')

#9.   Write a program to print the first 10 natural
numbers. print('first 10 natural number')
for a in range(1,10):
  print(a)
#10. Write a program to calculate the sum of numbers from 1 to n, where
n is entered by the user.
num=int(input('enter number to sum of number :'))
sum=0
for a in range(1,num+1):
  sum+=a
print(sum)
#11. Write a program to display the multiplication table of a number
entered by the user.
num=int(input('give num for table :'))
for a in range(1,11):

  print(num,'*',a,'=',num*a)
#12. Write a program to count the number of vowels in a string.
str='aeiouAEIOU'
inp=input('enter string for count vowels :')
count=0
for a in inp:
    if a in str:
        count+=1
print('number of vowel in string ',count)
#13. Write a program to print all prime numbers between 1 and 50.


print("Prime numbers between", 1, "and", 50, "are:")

for num in range(1, 50 + 1):
   # all prime numbers are greater than 1
   if num > 1:
       for i in range(2, num):
           if (num % i) == 0:
               break
       else:
           print(num)

#14. Write a program to calculate the factorial of a given number.
num=int(input('factorial of num :'))
fac=1
if num==0:
    print(1)
else:
    for a in range(1,num+1):
        fac*=a
    print(fac)
```

```
#15. Write a program to take 5 numbers as input from the user, store
them in a list, and display the list.
a=input('enter 5 num for list :')
b=list(a)
print(b)
#16. Write a program to calculate the sum and average of elements in a
list.
sum=0
for i in range(len(b)):
    sum+=int(b[i])
print('sum of list is ',sum,' and averge is ',sum/len(b))
#17. Write a program to find the largest and smallest elements in a
list.
max=int(b[1])
min=int(b[1])
for i in range(len(b)):
    if max<int(b[i]):
        max=int(b[i])
    if min>int(b[i]):
        min=int(b[i])
print('max is :',max,' min is :',min)
#18. Write a program to reverse a list.
print('reverse is :',list(reversed(b)))
#19. Write a program to count how many times a specific number appears
in a list.
x=int(input("enter number to count how many times it apper in list"))
count=0
for i in range(len(b)):
    if x==int(b[i]):
        count+=1
print(x," appear ",count," times")

#20. Write a program to sort a list in ascending order.
print('sorted lis',sorted(b))

#21. Write a program to input a string and print its length.
a=input('enter a string :')
print(a,' and its len is :',len(a))

#22. Write a program to reverse a string without using slicing.
print("string in reverse :",''.join(reversed(a)))
#23. Write a program to check if a string is a palindrome.
b=''.join(reversed(a))
if a==b:
    print('string is palindrom')
else:
    print('not palindrom')
#24. Write a program to count the number of words, vowels, and
consonants in a string.
a=input('enter string to count word vowel and constant :')
x='aeiouAEIOU'
y='1234567890'
z=' '
```

```
vowelcount=
0
constcount=
0
wordscount=
1
for i in range(len(a)):
    if(a[i] in x):
        vowelcount+=1
    if(a[i] in y):
        constcount+=1
    if(z in a[i]):
        wordscount+=1
print('vowel in string is :',vowelcount,' times')
print('constant in string is :',constcount,' times')
print('words in string is :',wordscount,' times')
#25. Write a program to replace all spaces in a string with an
underscore (_).
print(a.replace(' ', '_'))

#26. Write a function to calculate the square of a number.
def cal_squ(x):
    return(x*x)
a=int(input('give num for square :'))
print('square is ',cal_squ(a))


#27. Write a function to check if a number is even or odd.
def even_odd(a):
    b=int(a)
    if b%2==0:
     print('num is even')
    else:
     print('num is odd')
a=int(input('enter num to check num is even or not :'))
even_odd(a)

#28. Write a function to calculate the factorial of a number.
def factorial(num):
    fac=1
    if num==0:
     print(1)
    else:
     for a in range(1,num+1):
        fac*=a
    print(fac)
num=int(input('factorial of num :'))
factorial(num)

#29. Write a function to check if a string is a palindrome.
def palindrom(a):
    b=''.join(reversed(a))
    if b==a:
        print('yes palindrom')
    else:
        print('not palindrom')
a=input('enter string for check plaindrom :')
```

```
palindrom(a)
#30. Write a function to find the maximum of three numbers.
def maxofthree():
    x,y,z=1,2,3
    if x>y and x>z:
     print(x,' greater')
    elif y>x and y>z:
     print(y,' greater')
    elif z>x and z>y:
     print(z,' greater')
    else:
     print('all equal')

#31. Write a program to create a dictionary of 5 students with their
marks and display it.
students = {
    "Alice": 85,
    "Bob": 78,
    "Charlie": 92,
    "David": 88,
    "Emma": 95
}

# Displaying the dictionary
print(students)


#32. Write a program to update the marks of a specific student in the
dictionary.
students["Alice"]=90;
print(students)
# Creating a dictionary of students with their marks
students = {
    "Alice": 85,
    "Bob": 78,
    "Charlie": 92,
    "David": 88,
    "Emma": 95
}

# Initializing 'b' with the first student's marks
b = next(iter(students.values()))

# Looping through students to find the highest marks
for a in students:
    if b < students[a]:
        b = students[a]

print('Highest marks:', b)


#34. Write a program to count the number of occurrences of each word in
a given string.
# Taking input string
```

```
text = input("Enter a string: ")

# Splitting the string into words
words = text.split()

# Creating an empty dictionary to store word counts
word_count = {}

# Counting occurrences of each word
for word in words:
    word = word.lower() # Convert to lowercase to avoid case sensitivity
    word_count[word] = word_count.get(word, 0) + 1

# Displaying the word count
print("\nWord Occurrences:")
for word, count in word_count.items():
    print(f"{word}: {count}")

#38. Write a program to generate the Fibonacci sequence up to n terms.
def fibonacci(n):
    fib_sequence = [0, 1] # Starting values
    for _ in range(n - 2):
        fib_sequence.append(fib_sequence[-1] + fib_sequence[-2])
    return fib_sequence[:n] # Return only n terms

n = int(input("Enter the number of terms: "))
print("Fibonacci Sequence:", fibonacci(n))

#39. Write a program to create a guess the number game, where the user
has to guess a randomly generated number.
import random

number = random.randint(1, 100) # Random number between 1 and 100
attempts = 0
print("Guess the number (between 1 and 100):")

while attempts==1:

    guess = int(input("Enter your guess: "))
    attempts += 1

    if guess < number:
        print("Too low! Try again.")
    elif guess > number:
        print("Too high! Try again.")
    else:
        print(f"Congratulations! You guessed it in {attempts} attempts.")
        break

#40. Write a program to simulate a simple calculator with options for
addition, subtraction, multiplication, and division.

def calculator():
    print("Simple Calculator")
```

```
    print("1. Addition")
    print("2. Subtraction")
    print("3. Multiplication")
    print("4. Division")

    choice = input("Enter choice (1/2/3/4): ")
    num1 = float(input("Enter first number: "))
    num2 = float(input("Enter second number: "))

    if choice == '1':
        print(f"Result: {num1 + num2}")
    elif choice == '2':
        print(f"Result: {num1 - num2}")
    elif choice == '3':
        print(f"Result: {num1 * num2}")
    elif choice == '4':
        if num2 != 0:
            print(f"Result: {num1 / num2}")
        else:
            print("Error: Division by zero!")
    else:
        print("Invalid choice")

calculator()


#41. Write a program to count the occurrences of each character in a
string.
def count_characters(s):
    char_count = {}
    for char in s:
        char_count[char] = char_count.get(char, 0) + 1
    return char_count

text = input("Enter a string: ")
char_counts = count_characters(text)

print("\nCharacter Occurrences:")
for char, count in char_counts.items():
    print(f"{char}: {count}")
```