

1) Aim : Write a Program to calculate the area of triangle, rectangle, and circle.

```
length=int(input("length:"))  length:10

breadth=int(input("breadth:"))  breadth:20
area_rec=(length*breadth)
print(area_rec)  200
radius=float(input("radius:"))  radius:4
area_cir=(3.14*radius*radius)
print(area_cir)  50.24
base=float(input("base:"))  base:12
height=float(input("height:"))  height:10
area_tri=(0.5*base*height)
print(area_tri)  60.0
```

2) Aim: Write a Python Program to calculate factorial of a number`

```
num = int(input("Enter a number: "))
factorial = 1
for i in range(1, num + 1):  factorial *= i
print("Factorial:", factorial)
or import math  print(math.factorial(8))  40320
```

3) Aim: Write a Python Program to accept the marks of five subjects. Calculate the percentage and display percentage with grade.

```
print("Enter marks for five subjects (out of 100):")
sub1 = float(input("Enter marks for Subject 1: "))
sub2 = float(input("Enter marks for Subject 2: "))
sub3 = float(input("Enter marks for Subject 3: "))
sub4 = float(input("Enter marks for Subject 4: "))
sub5 = float(input("Enter marks for Subject 5: "))
total = sub1 + sub2 + sub3 + sub4 + sub5
percentage = (total / 500) * 100
if percentage >= 90:  grade = 'A+'
elif percentage >= 80:  grade = 'A'
elif percentage >= 70:  grade = 'B+'
elif percentage >= 60:  grade = 'B'
elif percentage >= 50:  grade = 'C'
elif percentage >= 40:  grade = 'D'
else:  grade = 'Fail'
print(f"\nTotal Marks: {total}/500")
print(f"Percentage: {percentage:.2f}%")
print(f"Grade: {grade}")
```

4)Aim: Write a Python Program to accept the number. Display reverse of number and check number is palindrome or not Simple Calculator by Making Functions.

```
def is_palindrome(number):
    original_number = number
    reversed_number = 0
    while number > 0:
        digit = number % 10
        reversed_number = (reversed_number * 10) + digit
        number = number // 10
    if original_number == reversed_number:
        return True
    else:
        return False

num = int(input("Enter a number: "))
if is_palindrome(num):
    print(f"{num} is a Palindrome Number")
else:
    print(f"{num} is NOT a Palindrome Number")
```

5)Aim: Program to find the union of two lists.

```
list1 = input("Enter elements of first list separated by space: ").split()
list2 = input("Enter elements of second list separated by space: ").split()
union = list(set(list1) | set(list2))
print("union of two list:", union)
```

6)Aim: Program to find the intersection of two lists.

```
list1 = input("Enter elements of first list separated by space: ").split()
list2 = input("Enter elements of second list separated by space: ").split()
intersection = list(set(list1) & set(list2))
print("intersection of list : ", intersection)
```

7)Aim: Python Program to Map Two Lists into a Dictionary

```
keys = input("Enter keys separated by spaces: ").split()
values = input("Enter values separated by spaces: ").split()
mapped_dict = dict(zip(keys, values))
print("Mapped Dictionary:", mapped_dict)
```

8) Aim: Program to remove the —ill th occurrence of the given word in a list where words repeat.

```
def remove_ith_occurrence(word_list, word, i):
    count = 0
    for index in range(len(word_list)):
        if word_list[index] == word:
            count += 1
            if count == i:
                del word_list[index]
                return word_list # Return the updated list
    print("Word not found enough times.")
    return word_list

words = input("Enter words separated by spaces: ").split()
word_to_remove = input("Enter the word to remove: ")
occurrence = int(input("Enter which occurrence to remove: "))
result = remove_ith_occurrence(words, word_to_remove, occurrence)
print("Updated List:", result)
```

9) Aim: Program to count the occurrences of each word in a given string sentence.

```
def count_word_occurrences(sentence):
    words = sentence.split() # Split the sentence into words
    word_count = {}
    for word in words:
        if word in word_count:
            word_count[word] += 1 # Increment count if word exists
        else:
            word_count[word] = 1 # Add word with count 1 if new
    return word_count

sentence = input("Enter a sentence: ")
result = count_word_occurrences(sentence)
print("Word Occurrences:")
for word, count in result.items():
    print(f"{word}: {count}")
```

10) Program to check if a substring is present in a given string.

```
main_string = input("Enter the main string: ")
substring = input("Enter the substring to check: ")
if substring in main_string:
    print("Yes, the substring is present in the main string.")
else:
    print("No, the substring is not present in the main string.")
```

11) Aim: Program to count the frequency of words appearing in a string using a dictionary

```
sentence = input("Enter a sentence: ")
words = sentence.split()
word_frequency = {}
for word in words:
    if word in word_frequency:
        word_frequency[word] += 1
    else:
        word_frequency[word] = 1
print("Word Frequencies:")
for word, count in word_frequency.items():
    print(f"{word}: {count}")
```

12) Aim: The program takes a list and finds the length of the list recursively Problem Description

```
def find_length(lst):
    if lst == []:
        return 0
    else:
        return 1 + find_length(lst[1:])
user_list = input("Enter elements of the list separated by spaces: ").split()
length = find_length(user_list)
print("Length of the list is:", length)
```

13) Aim: Compute the diameter, circumference, and volume of a sphere using class import math

```
class Sphere:
    def __init__(self, radius):
        self.radius = radius
    def diameter(self):
        return 2 * self.radius
    def circumference(self):
        return 2 * math.pi * self.radius
    def volume(self):
        return (4/3) * math.pi * (self.radius ** 3)
r = float(input("Enter the radius of the sphere: "))
s = Sphere(r)
print("Diameter of sphere:", s.diameter())
print("Circumference of sphere:", s.circumference())
print("Volume of sphere:", s.volume())
```

14) Aim: This is a Python Program to read a file and capitalize the first letter of every word in the file.

```
file_name = input("Enter the file name: ")
```

```
try:
```

```
    with open(file_name, 'r') as file:
```

```
        content = file.read()
```

```
        capitalized_content = content.title()
```

```
    print("\nCapitalized Content:")
```

```
    print(capitalized_content)
```

```
except FileNotFoundError:
```

```
    print("The file does not exist. Please check the file name.")
```