1. **Write Python Program to Swap Two Variables**

```
a=int(input("Enter first number"))
b=int(input("Enter second number"))
print("The numbers before swapping are:- a= ",a," & b= ",b)
temp=a
a=b
b=temp
print("The numbers after swapping are:- a= ",a," & b= ",b)
```

Output:-

```
Enter first number:- 10
Enter second number:- 20
The numbers before swapping are:- a=  10  & b=  20
The numbers after swapping are:- a=  20  & b=  10
```

2. **Write Python Program to Convert Kilometers to Miles.**

```
kilometers = float(input("Enter value in kilometers: "))
conv_fac = 0.621371
miles = kilometers * conv_fac
print('%0.2f kilometers is equal to %0.2f miles' %(kilometers,miles))
```

Output:-

```
Enter value in kilometers: 60
60.00 kilometers is equal to 37.28 miles
```

3. **Write Python Program to Convert Celsius To Fahrenheit**

```
celsius = float(input("Enter temperature in Celsius: "))
fahrenheit = (celsius * 1.8) + 32
print('%0.1f degree Celsius is equal to %0.1f degree Fahrenheit' %(celsius, fahrenheit))
```

Output:-

```
Enter temperature in Celsius: 10
10.0 degree Celsius is equal to 50.0 degree Fahrenheit
```

4. **Write Python Program to Check Leap Year**

```
year = int(input("Enter a year: "))
leap_year = (year % 4 == 0) and (year % 100 != 0 or year % 400 == 0)
if leap_year:
    print("%d is a leap year" % year)
else:
    print("%d is not a leap year" % year)
```

Output:-

```
Enter a year: 2004
2004 is a leap year
```

5. **Write Python Program to Find the Largest Among Three Numbers**

```
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
num3 = float(input("Enter third number: "))
if num1 >= num2 and num1 >= num3:
   largest = num1
elif num2 >= num1 and num2 >= num3:
   largest = num2
else:
   largest = num3
print("The largest number is", largest)
```

Output:-

```
Enter first number: 12
Enter second number: 20
Enter third number: 30
The largest number is 30.0
```

6. **Write Python Program to Print the Fibonacci sequence**

```
fibonacci = [0, 1]
for i in range(2, terms):
   fibonacci.append(fibonacci[i-1] + fibonacci[i-2])
print("Fibonacci sequence:")
for i in range(terms):
   print(fibonacci[i])
```

Output:-

```
How many terms do you want to print? 5
Fibonacci sequence: 0 1 1 2 3
```

7. **Write Python Program to Check Armstrong Number**

```
num = int(input("Enter a number: "))
sum = 0
order = len(str(num))
temp = num
while temp > 0:
  digit = temp % 10
  sum += digit ** order
  temp //= 10
if num == sum:
  print(num,"is an Armstrong number")
else:
  print(num,"is not an Armstrong number")
```

Output:-

```
Enter a number: 153
153 is an Armstrong number
```

8. Write Python Program to Find the Sum of Natural Numbers

```
n = int(input("Enter a positive integer: "))
sum = 0
for i in range(1, n+1):
    sum += i
print("The sum of the first", n, "natural numbers is:", sum)
```

Output:-
Enter a positive integer: 10
The sum of the first 10 natural numbers is: 55

9. Write Python Program to append element in the list

```
my_list = [1, 2, 3, 4, 5]
new_element = input("Enter a new element to append to the list: ")
my_list.append(new_element)
print("The updated list is:", my_list)
```

Output:-
Enter a new element to append to the list: 12
The updated list is: [1, 2, 3, 4, 5, '12']

10. Write Python Program to compare two lists

```
list1 = input("Enter the elements of the first list, separated by commas: ").split(",")
list2 = input("Enter the elements of the second list, separated by commas: ").split(",")
list1 = [int(x) for x in list1]
list2 = [int(x) for x in list2]
if list1 == list2:
    print("The two lists are equal")
else:
    print("The two lists are not equal")
```

Output:-
Enter the elements of the first list, separated by commas: 1,2,3,4,5
Enter the elements of the second list, separated by commas: 6,7,8,9,10
The two lists are not equal

11. Write Python Program to convert list to dictionary

```
my_list = [('key1', 1), ('key2', 2), ('key3', 3)]
my_dict = dict(my_list)
print("The resulting dictionary is:", my_dict)
```

Output:-
The resulting dictionary is: {'key1': 1, 'key2': 2, 'key3': 3}

12. Write Python Program to remove an element from a list

```
my_list = [1, 2, 3, 4, 5]
remove_element = int(input("Enter the element to remove from the list: "))
my_list.remove(remove_element)
print("The updated list is:", my_list)
```

Output:-

```
Enter the element to remove from the list: 3
The updated list is: [1, 2, 4, 5]
```

13. Write a Python program to remove a key from a dictionary.

```
my_dict = {'key1': 1, 'key2': 2, 'key3': 3}
remove_key = input("Enter the key to remove from the dictionary: ")
my_dict.pop(remove_key, None)
print("The updated dictionary is:", my_dict)
```

Output:-

```
Enter the key to remove from the dictionary: key2
The updated dictionary is: {'key1': 1, 'key3': 3}
```

14. Write Python Program to convert List to Set and list to string

```
my_list = [1, 2, 3, 4, 5]
my_set = set(my_list)
print("The resulting set is:", my_set)
my_string = ''.join(str(i) for i in my_list)
print("The resulting string is:", my_string)
```

Output:-

```
The resulting set is: {1, 2, 3, 4, 5}
The resulting string is: 12345
```

15. Write Python Program to convert list to string

```
my_list = [1, 2, 3, 4, 5]
my_string = ''.join(str(i) for i in my_list)
print("The resulting string is:", my_string)
```

Output:-

```
The resulting string is: 12345
```

16. Write Python Program to check if a Number is Positive, Negative or Zero

```
num = float(input("Enter a number: "))
if num > 0:
   print(num, "is a positive number")
elif num == 0:
   print(num, "is zero")
else:
   print(num, "is a negative number")
```

Output:-

```
Enter a number: 3
3.0 is a positive number
```

17. Write Python Program to check if a Number is Odd or Even

```
num = int(input("Enter a number: "))
if num % 2 == 0:
   print(num, "is an even number")
else:
   print(num, "is an odd number")
```

Output:-

```
Enter a number: 8
8 is an even number
```

18. Write Python Program to Check Prime Number

```
num = int(input("Enter a number: "))
if num > 1:
   for i in range(2, num):
      if (num % i) == 0:
         print(num, "is not a prime number")
         break
   else:
      print(num, "is a prime number")
else:
   print(num, "is not a prime number")
```

Output:-

```
Enter a number: 37
37 is a prime number
```

19. Write Python Program to print all Prime Numbers in an Interval

```
start = int(input("Enter the start of the interval: "))
end = int(input("Enter the end of the interval: "))
print("Prime numbers between", start, "and", end, "are:")
for num in range(start, end + 1):
   if num > 1:
      for i in range(2, num):
         if (num % i) == 0:
            break
      else:
         print(num)
```

Output:-

```
Enter the start of the interval: 1
Enter the end of the interval: 10
Prime numbers between 1 and 10 are:
2
3
5
7
```

20. Write Python Program to Find the Factorial and Fibonacci series of a Number

```
def factorial(num):
    if num == 0:
        return 1
    else:
        return num * factorial(num - 1)
def fibonacci(num):
    series = [0, 1]
    while series[-1] < num:
        series.append(series[-1] + series[-2])
    return series[:-1]
num = int(input("Enter a number: "))
print("Factorial of", num, "is", factorial(num))
print("Fibonacci series up to", num, "is", fibonacci(num))
```

Output:-

```
Enter a number: 5
Factorial of 5 is 120
Fibonacci series up to 5 is [0, 1, 1, 2, 3]
```

21. Write a Python program that finds all pairs of elements in a list whose sum is equal to a given value

```
lst = list(map(int, input("Enter a list of numbers separated by spaces: ").split()))
target = int(input("Enter the target sum: "))
pairs = []
for i in range(len(lst)):
    for j in range(i+1, len(lst)):
        if lst[i] + lst[j] == target:
            pairs.append((lst[i], lst[j]))
print("Pairs whose sum is equal to", target, "are:")
for pair in pairs:
    print(pair)
```

Output:-

```
Enter a list of numbers separated by spaces: 1 2 3 4
Enter the target sum: 6
Pairs whose sum is equal to 6 are:
(2, 4)
```

22. Write Python Program to Find Armstrong Number in an Interval

```
lower = int(input("Enter the lower bound of the interval: "))
upper = int(input("Enter the upper bound of the interval: "))
armstrong_numbers = []
for num in range(lower, upper+1):
    num_str = str(num)
    num_digits = len(num_str)
    sum_of_cubes = sum(int(digit)**num_digits for digit in num_str)
    if sum_of_cubes == num:
        armstrong_numbers.append(num)
print("Armstrong numbers in the interval [{}, {}]:".format(lower, upper))
print(armstrong_numbers)
```

Output:-

```
Enter the lower bound of the interval: 1
Enter the upper bound of the interval: 300
Armstrong numbers in the interval [1, 300]: [1, 2, 3, 4, 5, 6, 7, 8, 9, 153]
```

23. Write Python program to interchange first and last elements in a list

```
lst = list(map(int, input("Enter a list of numbers separated by spaces: ").split()))
if len(lst) >= 2:
    lst[0], lst[-1] = lst[-1], lst[0]
print("List after interchanging first and last elements:", lst)
```

Output:-

```
Enter a list of numbers separated by spaces: 1 2 3 4
List after interchanging first and last elements: [4, 2, 3, 1]
```

24. Write Python program to swap two elements in a list

```
lst = list(map(int, input("Enter a list of numbers separated by spaces: ").split()))
i, j = map(int, input("Enter the indices of the elements to be swapped: ").split())
lst[i], lst[j] = lst[j], lst[i]
print("List after swapping elements:", lst)
```

Output:-

```
Enter a list of numbers separated by spaces: 1 2 3 4
Enter the indices of the elements to be swapped: 1 3
List after swapping elements: [1, 4, 3, 2]
```

25. Write Python program to demonstrate following operations length ,append, extend, index, multiply on list

```
lst = [1, 2, 3, 4, 5]
print("Length of the list:", len(lst))
lst.append(6)
print("List after appending 6:", lst)
lst.extend([7, 8])
print("List after extending with [7, 8]:", lst)
print("Index of 3 in the list:", lst.index(3))
lst = lst * 2
print("List after multiplying with 2:", lst)
```

Output:-

```
Length of the list: 5
List after appending 6: [1, 2, 3, 4, 5, 6]
List after extending with [7, 8]: [1, 2, 3, 4, 5, 6, 7, 8]
Index of 3 in the list: 2
List after multiplying with 2: [1, 2, 3, 4, 5, 6, 7, 8, 1, 2, 3, 4, 5, 6, 7, 8]
```

26. Write Python program to demonstrate Ways to check if element exists in list

```
fruits = ['apple', 'banana', 'cherry', 'orange']
if 'banana' in fruits:
    print("Found banana!")
else:
    print("Did not find banana!")
```

Output:-

```
Found banana!
```

27. Write a Python program to check if two given sets have no elements in common

```
set1 = {1, 2, 3}
set2 = {4, 5, 6}
if set1.isdisjoint(set2):
    print("The two sets have no common elements.")
else:
    print("The two sets have at least one common element.")
```

Output:-

The two sets have no common elements.

28. Write a Python program to find all the unique words and count the frequency of occurrence from a given list of strings. Use Python set data type

```
# Define a list of strings
strings = ["apple banana cherry", "cherry dog cat", "apple cat elephant elephant"]
unique_words = set()
for s in strings:
    words = s.split()
    unique_words.update(words)
word_counts = {}
for word in unique_words:
    count = 0
    for s in strings:
        if word in s:
            count += s.count(word)
    word_counts[word] = count
for word, count in word_counts.items():
    print(word, count)
```

Output:-

cherry 2
cat 2
dog 1
banana 1
apple 2
elephant 2

29. Write Python program to find sum of elements in list

```
my_list = [10, 20, 30, 40, 50]
sum = 0
for i in my_list:
    sum += i
print("The sum of elements in the list is:", sum)
```

Output:-

The sum of elements in the list is: 150

30. Write Python program multiply all numbers in the list

```
my_list = [10, 20, 30, 40, 50]
product = 1
for i in my_list:
    product *= i
print("The product of all numbers in the list is:", product)
```

Output:-

The product of all numbers in the list is: 12000000

31. Write a python program to accept a number from the user check whether an element exist within a defined tuple, if exist it is prime or not

```
my_tuple = (2, 3, 5, 7, 11, 13, 17, 19, 23, 29)
num = int(input("Enter a number: "))
if num in my_tuple:
    if num == 2 or num == 3 or num == 5 or num == 7:
        print(num, "is a prime number")
    elif num % 2 == 0 or num % 3 == 0 or num % 5 == 0 or num % 7 == 0:
        print(num, "is not a prime number")
    else:
        print(num, "is a prime number")
else:
    print(num, "is not in the tuple")
```

Output:-

Enter a number: 17
17 is a prime number

32. Write Python program to find second largest number in a list

```
lst = [5, 10, 15, 20, 25]
max_elem = max(lst)
lst.remove(max_elem)
second_max = max(lst)
print("The second largest element in the list is:", second_max)
```

Output:-

The second largest element in the list is: 20

33. Write Python program to print even and odd numbers in a list

```
my_list = [10, 15, 20, 25, 30, 35, 40, 45, 50]
print("Even numbers:")
for num in my_list:
    if num % 2 == 0:
        print(num)
print("\nOdd numbers:")
for num in my_list:
    if num % 2 != 0:
        print(num)
```

Output:-
Even numbers: 10 20 30 40 50
Odd numbers:15 25 35 45

34. Write a Python program to calculate the product, multiplying all the numbers in a given tuple.

```
def calculate_product(tuple):
    product = 1
    for num in tuple:
        product *= num
    return product
my_tuple = (1, 2, 3, 4, 5)
product = calculate_product(my_tuple)
print("The product of all the numbers in the tuple is:", product)
```

Output:-
The product of all the numbers in the tuple is: 120

35. Write Python program to find N largest elements from a list

```
def n_largest_elements(lst, n):
    """Return a list of the N largest elements in lst."""
    lst.sort(reverse=True)
    return lst[:n]
my_list = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
n = 3
largest_elements = n_largest_elements(my_list, n)
print(f"The {n} largest elements in the list {my_list} are {largest_elements}")
```

Output:-
The 3 largest elements in the list [10, 9, 8, 7, 6, 5, 4, 3, 2, 1] are [10, 9, 8]

36. Write a Python program to check if a specified element appears in a tuple of tuples.(Take multiple tuples in a list)

```
tuples_list = [(1, 2, 3), (4, 5, 6), (7, 8, 9)]
element = 5
found = False
for t in tuples_list:
    if element in t:
        found = True
        break
if found:
    print(f"The element {element} is present in the tuples list.")
else:
    print(f"The element {element} is not present in the tuples list.")
```

Output:-

The element 5 is present in the tuples list.

37. Write a Python program to convert a given list of tuples to a list of lists.

```
list_of_tuples = [(1, 2), (3, 4), (5, 6)]
list_of_lists = [list(t) for t in list_of_tuples]
print(list_of_lists)
```

Output:-

[[1, 2], [3, 4], [5, 6]]

38. Write Python program to remove multiple elements from a list in Python

```
lst = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
remove = [2, 4, 6, 8, 10]
lst = [x for x in lst if x not in remove]
print(lst)
```

Output:-

[1, 3, 5, 7, 9]

39. Write Python program to remove empty List from List

```
lst = [[1, 2], [], [3, 4, 5], [], [6], [], [], [7, 8, 9], []]
lst = [sub_lst for sub_lst in lst if sub_lst]
print(lst)
```

Output:-

[[1, 2], [3, 4, 5], [6], [7, 8, 9]]

40. Write Python program to Count Occurrences of an element in a list

```
def count_occurrences(lst, x):
    return lst.count(x)
my_list = [1, 2, 3, 4, 2, 5, 6, 2]
print(count_occurrences(my_list, 2))
```

Output:-

3

41. Write Python program to print duplicates from a list of integers

```
my_list = [1, 2, 3, 2, 4, 5, 1, 5]
duplicates = set()
for num in my_list:
    if my_list.count(num) > 1:
        duplicates.add(num)
print("Duplicates in the list:", list(duplicates))
```

Output:-

Duplicates in the list: [1, 2, 5]

42. Write program to find Cumulative sum of a list

```
lst = [1, 2, 3, 4, 5]
cumulative_sum = []
sum_so_far = 0
for num in lst:
    sum_so_far += num
    cumulative_sum.append(sum_so_far)
print("Cumulative sum of list", lst, "is:", cumulative_sum)
```

Output:-

Cumulative sum of list [1, 2, 3, 4, 5] is: [1, 3, 6, 10, 15]

43. Write Python program to check if given string is vowel Palindrome

```
def is_vowel_palindrome(string):
    vowels = "aeiou"
    vowels_in_string = [char for char in string if char in vowels]
    return vowels_in_string == vowels_in_string[::-1]
string = "aeiouuoiea"
if is_vowel_palindrome(string):
    print(f"{string} is a vowel palindrome")
else:
    print(f"{string} is not a vowel palindrome")
```

Output:-

aeiouuoiea is a vowel palindrome

44. Write Python program to develop a calculator.

```
while True:
    # Get user input
    num1 = float(input("Enter first number: "))
    num2 = float(input("Enter second number: "))
    print("Select operation:")
    print("1. Addition")
    print("2. Subtraction")
    print("3. Multiplication")
    print("4. Division")
    choice = input("Enter choice (1/2/3/4): ")
    if choice == '1':
        print(num1, "+", num2, "=", num1 + num2)
    elif choice == '2':
        print(num1, "-", num2, "=", num1 - num2)
    elif choice == '3':
        print(num1, "*", num2, "=", num1 * num2)
    elif choice == '4':
        if num2 == 0:
            print("Cannot divide by zero")
        else:
            print(num1, "/", num2, "=", num1 / num2)
    else:
        print("Invalid choice")
    another_calculation = input("Do you want to perform another calculation? (y/n)")
    if another_calculation.lower() != "y":
        break
```

Output:-

```
Enter first number: 4
Enter second number: 5
Select operation:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Enter choice (1/2/3/4): 3
4.0 * 5.0 = 20.0
Do you want to perform another calculation? (y/n)n
```

45. Write Python program for delivery , where calculate total amount(if distance=2KM amount=Rs20, if distance=4KM to 7KM amount=45, , if distance above 7 extra charges will be added RS 7per kilometer).

```
distance = float(input("Enter the distance in kilometers: "))
if distance <= 2:
    amount = 20
elif distance <= 7:
    amount = 45
else:
    extra_distance = distance - 7
    amount = 45 + extra_distance * 7
print(f"Total amount for delivery is Rs {amount}")
```

Output:-

```
Enter the distance in kilometers: 44
Total amount for delivery is Rs 304.0
```

46. Write python program to generate a score card of employee to evaluate its quarterly performance (Note calculate Score in percentage, if Score percent below 60 then "Performance needs improvement "if Score percent is between 60 t0 70 then "Good Performance", if Score percent is between 71 to 80 then "Very Good ", if Score percent is between 81 to 90 then "Excellent")

```
def calculate_percentage(total_score, max_score):
    return (total_score / max_score) * 100
name = input("Enter employee name: ")
score_1 = int(input("Enter score for first quarter (out of 50): "))
score_2 = int(input("Enter score for second quarter (out of 50): "))
score_3 = int(input("Enter score for third quarter (out of 50): "))
score_4 = int(input("Enter score for fourth quarter (out of 50): "))
total_score = score_1 + score_2 + score_3 + score_4
max_score = 200
percentage = calculate_percentage(total_score, max_score)
if percentage < 60:
    performance = "Performance needs improvement"
elif percentage >= 60 and percentage <= 70:
    performance = "Good Performance"
elif percentage > 70 and percentage <= 80:
    performance = "Very Good"
elif percentage > 80 and percentage <= 90:
    performance = "Excellent"
else:
    performance = "Outstanding"

print("\nScorecard for", name)
print("Total score:", total_score, "out of", max_score)
print("Score percentage:", percentage, "%")
print("Performance:", performance)
```

Output:-

```
Enter employee name: xyz
Enter score for first quarter (out of 50): 34
Enter score for second quarter (out of 50): 45
Enter score for third quarter (out of 50): 28
Enter score for fourth quarter (out of 50): 27

Scorecard for xyz
Total score: 134 out of 200
Score percentage: 67.0 %
Performance: Good Performance
```

47. Write a python program to merge two dictionary.

```
dict1 = {'a': 100, 'b': 200}
dict2 = {'c': 300, 'd': 400}
merged_dict = {**dict1, **dict2}
print("Merged dictionary:", merged_dict)
```

Output:-

```
Merged dictionary: {'a': 100, 'b': 200, 'c': 300, 'd': 400}
```

48. Write a python program to convert dictionary into list

```
my_dict = {'a': 1, 'b': 2, 'c': 3}
my_list = list(my_dict.items())
print(my_list)
```

Output:-

```
[('a', 1), ('b', 2), ('c', 3)]
```

49. Write a python program to use following , methods of string: isdigit(), capitalize(),casefold(), isidentifier(), swapcase(), rpartition(), startswith(), split(),max().

```
string = "Hello, World! 123"
if string.isdigit():
    print("The string contains only digits.")
else:
    print("The string does not contain only digits.")
capitalized_string = string.capitalize()
print("Capitalized string:", capitalized_string)
lowercase_string = string.casefold()
print("Lowercase string:", lowercase_string)
if string.isidentifier():
    print("The string is a valid identifier.")
else:
    print("The string is not a valid identifier.")
swapped_case_string = string.swapcase()
print("Swapped case string:", swapped_case_string)
separator = ","
left_part, separator, right_part = string.rpartition(separator)
print("Left part of the string:", left_part)
print("Separator:", separator)
print("Right part of the string:", right_part)
prefix = "Hello"
if string.startswith(prefix):
    print("The string starts with the prefix.")
else:
    print("The string does not start with the prefix.")
substrings = string.split()
print("Substrings:", substrings)
max_char = max(string)
print("Maximum character in the string:", max_char)
```

Output:-

```
The string does not contain only digits.
Capitalized string: Hello, world! 123
Lowercase string: hello, world! 123
The string is not a valid identifier.
Swapped case string: hELLO, wORLD! 123
Left part of the string: Hello
Separator: ,
Right part of the string:  World! 123
The string starts with the prefix.
Substrings: ['Hello,', 'World!', '123']
Maximum character in the string: r
```

50. Write Python Program to Form a New String Made of the First 2 and Last 2 characters From a Given String.

```
def new_string(string):
    if len(string) < 2:
        return ""
    new_str = string[:2] + string[-2:]
    return new_str
print(new_string("hello"))
```

Output:-
Helo

51. Write a python code to remove the characters which have odd index values of given string

```
input_string = input("Enter a string: ")
output_string = ""
for index in range(len(input_string)):
    if index % 2 == 0:
        output_string += input_string[index]
print("String with even indexed characters: ", output_string)
```

Output:-
Enter a string: rahul
String with even indexed characters: rhl

52. Write Python code Combine two dictionaries having key of the first dictionary and value of the second dictionary

```
dict1 = {'a': 1, 'b': 2, 'c': 3}
dict2 = {'x': 'one', 'y': 'two', 'z': 'three'}
for key in dict1:
    if key in dict2:
        dict1[key] = dict2[key]
print(dict1)
```

Output:-
{'a': 1, 'b': 2, 'c': 3}

53. Write a python program to display the following pattern

11111111
222222
3333
44
5

*** * * * ***
*** * * ***
*** * ***
*** ***
*****
*****
*** ***
*** * ***
*** * * * ***
*** * * ***

```
for i in range(6, 0, -1):
    for j in range(0, i):
        print("*", end=" ")
    print()

for i in range(2, 5):
    for j in range(0, i):
        print("*", end=" ")
    print()
for i in range(1, 6):
    for j in range(1, 10):
        if j >= i and j <= 10 - i:
            print(i, end="")
        else:
            print(" ", end="")
    print()
```

Output:-

```
* * * * * *
* * * * *
* * * *
* * *
* *
*
* *
* * *
* * * *
111111111
 2222222
  33333
   444
    5
```

54. Write a Python program to generate scorecard of the student, take input from the user: student name marks 1 marks 2 marks 3 marks 4 if percentage is between 75 to 85 then distinction and eligible for scholarship , if between 65 to 74 then first class between 55 to 64 then second class between 45 to 54 3rd class and less than 45 fail

```
name = input("Enter student name: ")
marks1 = float(input("Enter marks for subject 1: "))
marks2 = float(input("Enter marks for subject 2: "))
marks3 = float(input("Enter marks for subject 3: "))
marks4 = float(input("Enter marks for subject 4: "))
total_marks = marks1 + marks2 + marks3 + marks4
percentage = (total_marks / 400) * 100
# Determine grade based on percentage
if percentage >= 75 and percentage <= 85:
    grade = "Distinction"
    scholarship = "Eligible for scholarship"
elif percentage >= 65 and percentage <= 74:
    grade = "First Class"
    scholarship = "Not eligible for scholarship"
elif percentage >= 55 and percentage <= 64:
    grade = "Second Class"
    scholarship = "Not eligible for scholarship"
elif percentage >= 45 and percentage <= 54:
    grade = "Third Class"
    scholarship = "Not eligible for scholarship"
else:
    grade = "Fail"
    scholarship = "Not eligible for scholarship"
print("Scorecard for", name)
print("Marks 1:", marks1)
print("Marks 2:", marks2)
print("Marks 3:", marks3)
print("Marks 4:", marks4)
print("Total marks:", total_marks)
print("Percentage:", percentage)
print("Grade:", grade)
print(scholarship)
```

Output:-

```
Enter student name: Rahul
Enter marks for subject 1: 75
Enter marks for subject 2: 78
Enter marks for subject 3: 98
Enter marks for subject 4: 88
Scorecard for Rahul
Marks 1: 75.0
Marks 2: 78.0
Marks 3: 98.0
Marks 4: 88.0
Total marks: 339.0
Percentage: 84.75
Grade: Distinction Eligible for scholarship
```

55. Write a Python program to take pizza order details from the customer and generate total cost receipt (user input : customer name, Pizza type,size, address payment mode details)

```
print("Welcome to Pizza Order!")
name = input("Enter your name: ")
pizza_type = input("Enter pizza type (Veg/Non-veg): ")
size = input("Enter pizza size (S/M/L): ")
address = input("Enter delivery address: ")
payment_mode = input("Enter payment mode (Cash/Card): ")
total_cost = 0
if pizza_type.lower() == "veg":
    if size.lower() == "s":
        total_cost = 200
    elif size.lower() == "m":
        total_cost = 300
    elif size.lower() == "l":
        total_cost = 400
    else:
        print("Invalid size entered!")
        exit()
elif pizza_type.lower() == "non-veg":
    if size.lower() == "s":
        total_cost = 250
    elif size.lower() == "m":
        total_cost = 350
    elif size.lower() == "l":
        total_cost = 450
    else:
        print("Invalid size entered!")
        exit()
else:
    print("Invalid pizza type entered!")
    exit()
print("\n\nReceipt:")
print(f"Customer name: {name}")
print(f"Pizza type: {pizza_type}")
print(f"Pizza size: {size}")
print(f"Delivery address: {address}")
print(f"Payment mode: {payment_mode}")
print(f"Total cost: {total_cost}")
```

Output:-

```
Welcome to Pizza Order!
Enter your name: Rahul
Enter pizza type (Veg/Non-veg): Veg
Enter pizza size (S/M/L): M
Enter delivery address: xyz
Enter payment mode (Cash/Card): cash
                Receipt:
Customer name: Rahul        Delivery address: xyz
Pizza type: Veg             Payment mode: cash
Pizza size: M               Total cost: 300
```

56. Write a python program that accepts a string and counys the number of upper and lower case letters

```
string = input("Enter a string: ")
upper_count = 0
lower_count = 0
for letter in string:
    if letter.isupper():
        upper_count += 1
    elif letter.islower():
        lower_count += 1
print("Number of uppercase letters: ", upper_count)
print("Number of lowercase letters: ", lower_count)
```

Output:-

```
Enter a string: RaHuL GaDeKaR
Number of uppercase letters:  7
Number of lowercase letters:  5
```