



main.py

```
1 #Write a function to take list as parameter and return a dictionary that contains informati
2 def count_occurrences(input_list):
3     occurrences = {}
4     for element in input_list:
5         if element in occurrences:
6             occurrences[element] += 1
7         else:
8             occurrences[element] = 1
9     return occurrences
10
11 input_list = ['a', 'b', 'c', 'd', 'a', 'e', 'a', 'c', 'd', 'e']
12 result_dict = count_occurrences(input_list)
13 print(result_dict)
14
```

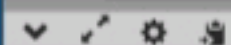
input

{'a': 3, 'b': 1, 'c': 2, 'd': 2, 'e': 2}

...Program finished with exit code 0
Press ENTER to exit console.



```
main.py
1 #Write a program to make calculator using dictionary withkeys ('add', 'subtract', 'multiply
2 calculator = {
3     'add': lambda x, y: x + y,
4     'subtract': lambda x, y: x - y,
5     'multiply': lambda x, y: x * y,
6     'divide': lambda x, y: x / y if y != 0 else 'Error: Division by zero'
7 }
8
9 result_add = calculator['add'](2, 3)
10 result_subtract = calculator['subtract'](5, 2)
11 result_multiply = calculator['multiply'](3, 4)
12 result_divide = calculator['divide'](10, 2)
13
14 print("Addition result:", result_add)
15 print("Subtraction result:", result_subtract)
16 print("Multiplication result:", result_multiply)
17 print("Division result:", result_divide)
18
```



input

```
Addition result: 5
Subtraction result: 3
Multiplication result: 12
Division result: 5.0
```

```
...Program finished with exit code 0
Press ENTER to exit console.
```





main.py

```
1 #write a program to find the character with highest ASCIIvalue in string.
2 def highest_ascii_char(input_str):
3     if not input_str:
4         return None
5
6     max_char = input_str[0]
7
8     for char in input_str:
9         if ord(char) > ord(max_char):
10             max_char = char
11
12     return max_char
13 input_string = "Hello World!"
14 result = highest_ascii_char(input_string)
15 print("Character with highest ASCII value is",result)
```

Character with highest ASCII value is r

...Program finished with exit code 0
Press ENTER to exit console.





main.py

```
2 # Define three 2-D matrices
3 matrix1 = [[1, 2, 3],
4             [4, 5, 6],
5             [7, 8, 9]]
6
7 matrix2 = [[9, 8, 7],
8             [6, 5, 4],
9             [3, 2, 1]]
10
11 matrix3 = [[2, 4, 6],
12             [8, 10, 12],
13             [14, 16, 18]]
14
15 result_matrix = [[0, 0, 0],
16                  [0, 0, 0],
17                  [0, 0, 0]]
18
19 for i in range(len(matrix1)):
20     for j in range(len(matrix1[0])):
21         result_matrix[i][j] = matrix1[i][j] + matrix2[i][j] + matrix3[i][j]
22
23 print("Result of adding three matrices:")
24 for row in result_matrix:
25     print(row)
26
```

input

Result of adding three matrices:
[12, 14, 16]
[18, 20, 22]
[24, 26, 28]

...Program finished with exit code 0
Press ENTER to exit console.

```
main.py
1  #Write a program to find most frequent element of list.
2  def most_frequent_element(input_list):
3      frequency_dict = {}
4      max_frequency = 0
5
6      for element in input_list:
7          frequency_dict[element] = frequency_dict.get(element, 0) + 1
8          max_frequency = max(max_frequency, frequency_dict[element])
9      most_frequent_elements = [key for key, value in frequency_dict.items() if value == max_
10
11      return most_frequent_elements
12 input_list1 = [1, 2, 1, 1, 2, 3]
13 input_list2 = [10, 20, 10, 10, 50, 30, 20, 30, 40, 20]
14
15 output1 = most_frequent_element(input_list1)
16 output2 = most_frequent_element(input_list2)
17
18 print("Most frequent element(s) in input_list1:", output1)
19 print("Most frequent element(s) in input_list2:", output2)
20
```

input

```
Most frequent element(s) in input_list1: [1]
Most frequent element(s) in input_list2: [10, 20]

...Program finished with exit code 0
Press ENTER to exit console.
```



main.py

```
1 #write a program to swap elements in list through taking elements indexes from console.
2 def swap_elements(input_list, index1, index2):
3     if 0 <= index1 < len(input_list) and 0 <= index2 < len(input_list):
4         input_list[index1], input_list[index2] = input_list[index2], input_list[index1]
5         return input_list
6     else:
7         return "Invalid indexes provided"
8
9 my_list = [10, 20, 30, 40, 50]
10 print("Original list:", my_list)
11
12 index1 = int(input("Enter the index of the first element to swap: "))
13 index2 = int(input("Enter the index of the second element to swap: "))
14
15 result = swap_elements(my_list, index1, index2)
16 print("List after swapping:", result)
17
```



input

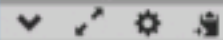
```
Original list: [10, 20, 30, 40, 50]
Enter the index of the first element to swap: 0
Enter the index of the second element to swap: 1
List after swapping: [20, 10, 30, 40, 50]
```

```
...Program finished with exit code 0
Press ENTER to exit console.
```



main.py

```
1 #Write a program to add elements of 3-D matrix.
2 def sum_3d_matrix(matrix):
3     total_sum = 0
4     for row in matrix:
5         for sub_list in row:
6             for element in sub_list:
7                 total_sum += element
8     return total_sum
9
10
11 matrix_3d = [
12     [[1, 1, 1], [1, 1, 1], [1, 1, 1]],
13     [[1, 1, 1], [1, 1, 1], [1, 1, 1]],
14     [[1, 1, 1], [1, 1, 1], [1, 1, 1]]
15 ]
16 sum_of_elements = sum_3d_matrix(matrix_3d)
17
18 print("Sum of elements in the 3-D matrix:", sum_of_elements)
19
```



input

Sum of elements in the 3-D matrix: 27

...Program finished with exit code 0
Press ENTER to exit console.



main.py

```
1  #Write a program to merge to dictionaries
2  dict1 = {'a': 1, 'b': 2}
3  dict2 = {'b': 3, 'c': 4}
4  merged_dict = dict1.copy()
5  merged_dict.update(dict2)
6  print("Merged dictionary:", merged_dict)
7
```

input

Merged dictionary: {'a': 1, 'b': 3, 'c': 4}

...Program finished with exit code 0
Press ENTER to exit console.