1. Write a program in C to count the total number of duplicate elements in an array.
Test Data :
Input the number of elements to be stored in the array :3
Input 3 elements in the array :
element - 0 : 5
element - 1 : 1
element - 2 : 1
Expected Output :
Total number of duplicate elements found in the array is : 1

2. Write a program in C to print all unique elements in an array.
Test Data :
Print all unique elements of an array:

Input the number of elements to be stored in the array: 4
Input 4 elements in the array :
element - 0 : 3
element - 1 : 2
element - 2 : 2
element - 3 : 5
Expected Output :
The unique elements found in the array are:
3 5

3. Write a program in C to merge two arrays of the same size sorted in descending order.
Test Data :
Input the number of elements to be stored in the first array :3
Input 3 elements in the array :
element - 0 : 1
element - 1 : 2
element - 2 : 3
Input the number of elements to be stored in the second array :3
Input 3 elements in the array :
element - 0 : 1
element - 1 : 2
element - 2 : 3
Expected Output :
The merged array in decending order is :
3 3 2 2 1 1

4. Write a program in C to count the frequency of each element of an array.
Test Data :
Input the number of elements to be stored in the array :3
Input 3 elements in the array :
element - 0 : 25
element - 1 : 12
element - 2 : 43
Expected Output :
The frequency of all elements of an array :
25 occurs 1 times
12 occurs 1 times
43 occurs 1 times

5. Write a program in C to find the maximum and minimum elements in an array.
Test Data :
Input the number of elements to be stored in the array :3
Input 3 elements in the array :
element - 0 : 45
element - 1 : 25
element - 2 : 21
Expected Output :
Maximum element is : 45
Minimum element is : 21

6. Write a program in C to separate odd and even integers into separate arrays.
Test Data :
Input the number of elements to be stored in the array :5
Input 5 elements in the array :
element - 0 : 25
element - 1 : 47
element - 2 : 42
element - 3 : 56
element - 4 : 32
Expected Output :
The Even elements are :
42 56 32
The Odd elements are :
25 47

7. Write a program in C to find the second largest element in an array.
Test Data :
Input the size of array : 5
Input 5 elements in the array :

element - 0 : 2
element - 1 : 9
element - 2 : 1
element - 3 : 4
element - 4 : 6
Expected Output :
The Second largest element in the array is : 6

8. Write a program in C to convert a decimal number to a binary number using the function.
Test Data :
Input any decimal number : 65
Expected Output :

```
 The Binary value is : 1000001
```

9. Write a program in C to print all perfect numbers in a given range using the function.
Test Data :
Input lowest search limit of perfect numbers : 1
Input lowest search limit of perfect numbers : 100
Expected Output :

```
 The perfect numbers between 1 to 100 are :
 6    28
```

10. Write a program in C to make such a pattern like a right angle triangle with a number which will repeat a number in a row.

The pattern like :

```
 1
 22
 333
 4444
```

11. Write a program in C to make such a pattern like a right angle triangle with the number increased by 1.

The pattern like :

```
    1
```

```
 2 3
 4 5 6
 7 8 9 10
```

12. Write a program in C to make a pyramid pattern with numbers increased by 1.

```
   1
  2 3
 4 5 6
7 8 9 10
```

13. Write a program in C to print Floyd's Triangle.

```
1
01
101
0101
10101
```

14. Write a program in C to find the number and sum of all integers between 100 and 200 which are divisible by 9.
Expected Output :
Numbers between 100 and 200, divisible by 9 :
108 117 126 135 144 153 162 171 180 189 198
The sum : 1683

15. Write a C program to convert a binary number into a decimal number without using array, function and while loop.
Test Data :
Input a binary number :1010101
Expected Output :
The Binary Number : 1010101
The equivalent Decimal Number : 85

16. Write a program in C to convert a decimal number into octal without using an array.
Test Data :
Enter a number to convert : 79
Expected Output :
The Octal of 79 is 117.

17. Write a C program to convert an octal number to a decimal without using an array.

Test Data :
Input an octal number (using digit 0 - 7) :745
Expected Output :
The Octal Number : 745
The equivalent Decimal Number : 485

18. Write a program in C to find the largest element using Dynamic Memory Allocation.
Test Data :
Input total number of elements(1 to 100): 5

Number 1: 5
Number 2: 7
Number 3: 2
Number 4: 9
Number 5: 8
Expected Output :

```
The Largest element is :   9.00
```


19. Write a program in C to sort an array using a pointer.
Test Data :
testdata
Expected Output :

Test Data :
Input the number of elements to store in the array : 5
Input 5 number of elements in the array :
element - 1 : 25
element - 2 : 45
element - 3 : 89
element - 4 : 15
element - 5 : 82
Expected Output :

```
 The elements in the array after sorting :
 element - 1 : 15
 element - 2 : 25
 element - 3 :
45
 element - 4 : 82
```

```
element - 5 : 89
```

20. Write a program in C to compute the sum of all elements in an array using pointers.
Test Data :
Input the number of elements to store in the array (max 10) : 5
Input 5 number of elements in the array :
element - 1 : 2
element - 2 : 3
element - 3 : 4
element - 4 : 5
element - 5 : 6
Expected Output :

```
 The sum of array is : 20
```

21. Write a program in C to count the number of vowels and consonants in a string using a pointer.
Test Data :
Input a string: string
Expected Output :

```
Number of vowels : 1
Number of constant : 5
```

22. Write a program in C to compute the sum of all elements in an array using pointers.
Test Data :
Input the number of elements to store in the array (max 10) : 5
Input 5 number of elements in the array :
element - 1 : 2
element - 2 : 3
element - 3 : 4
element - 4 : 5
element - 5 : 6
Expected Output :

```
 The sum of array is : 20
```

23. Write a program in C to print the elements of an array in reverse order using pointer.

Test Data :

Input the number of elements to store in the array (max 15) : 5

Input 5 number of elements in the array :

element - 1 : 2

element - 2 : 3

element - 3 : 4

element - 4 : 5

element - 5 : 6

Expected Output :

```
The elements of array in reverse order are :
element - 5 : 6
element - 4 : 5
element - 3 : 4
element - 2 : 3
element - 1 : 2
```

24. Write a program in C to print a string in reverse using a pointer.

Test Data :

Input a string : w3resource

Expected Output :

```
Pointer : Print a string in reverse order :
-------------------------------------------------
Input a string :w3resource
Reverse of the string is : ecruoser3w
```

25. Write a C program to get the indices of two numbers in a given array of integers. This will enable you to get the sum of two numbers equal to a specific target.

Expected Output:

```
Original Array: 4  2  1  5
Target Value: 7
Indices of the two numbers whose sum equal to target value: 7
1 3
```