C Programming

Assignments_5

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Exercise 1

The sequence of numbers (0, 1, 1, 2, 3, 5, 8, 13, …n) is called Fibonacci numbers; each is the sum of the preceding 2. Write a program which given n, print the nth Fibonacci number **(Using for/while)**.

```
Please enter the element : 4
Fibonacci 4 is: 3
```

```
Please enter the element : 7
Fibonacci 7 is: 13
```

Exercise 2

Write a C Program that use the **selection sort algorithm** to sort an integer array in descending order.

```
Enter the required array:
33
67
12
89
25
array after descending order using selection sorting:
89      67      33      25      12
```

Exercise 3

Write a C Program that use the **bubble sort algorithm** to sort an integer array in ascending order.

```
Enter the required array:
100
300
400
600
700
1
elements after sorting using bubble sort
1       100     300     400     600     700
```

```
Enter the required array:
10
20
30
40
50
60

elements are sorted without bubble sort
10      20      30      40      50      60
```

Exercise 4

Write a C Program to print the index of **First** occurrence of a number in a given array. Array index start from 0. If the item is not in the list print (not found). **(Using Linear Search Algorithm).**

```
Enter the required array:
10
20
30
40
50
Enter element for search: 100

Element not found in array
```

```
Enter the required array:
22
33
44
55
66
Enter element for search: 44

The element at the location: 2
```

Exercise 5

Write a C Program to print the index of **Last** occurrence of a number in a given array. Array index start from 0. If the item is not in the list print (not found). **(Using Linear Search Algorithm).**

```
Enter the required array:
12
34
55
66
44
Enter element for search: 5

Element not found in array
```

```
Enter the required array:
10
20
30
10
40
Enter element for search: 10

The element at the location: 3
```

Exercise 6

Write a C Program to Binary Search Algorithm.

1- using (for/while).

2- using recursive function.

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