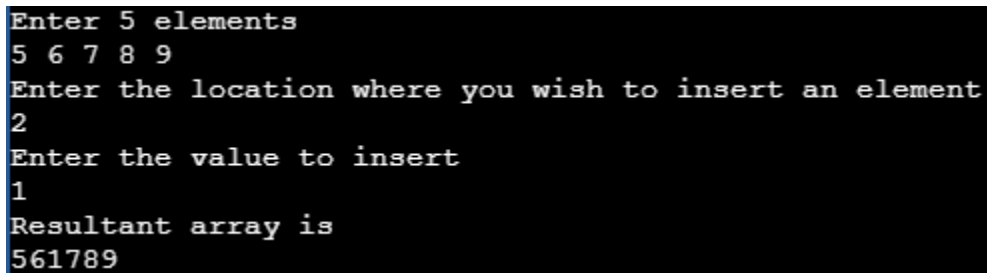1. C Program to insert a number at a given location in an array.

```c
#include <stdio.h>
int main()
{
        int array[10], position, i, n, value;
        printf("Enter number of elements in array\n");
         scanf("%d", &n);
        printf("Enter %d elements\n", n);
        for (i = 0; i < n; i++)
                scanf("%d", &array[i]);
        printf("Enter the location where you wish to insert an element\n");
        scanf("%d", &position);
        printf("Enter the value to insert\n");
        scanf("%d", &value);
        for (i = n - 1; i >= position; i--)
                array[i+1] = array[i];
        array[position] = value;
        printf("Resultant array is\n");
        for (i = 0; i <= n; i++)
                printf("%d", array[i]);
        return 0;
}
```

```
Enter 5 elements
5 6 7 8 9
Enter the location where you wish to insert an element
2
Enter the value to insert
1
Resultant array is
561789
```
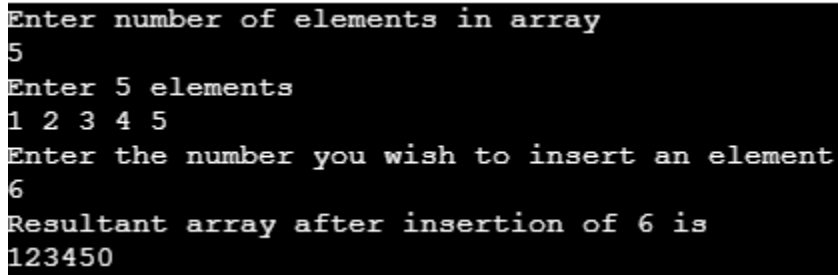
2. C Program to insert a number in an array that is already sorted in ascending order.

```c
#include <stdio.h>
int main()
{
        int array[10], i,j, n, num;
        printf("Enter number of elements in array\n");
         scanf("%d", &n);
        printf("Enter %d elements\n", n);
        for (i = 0; i < n; i++)
                scanf("%d", &array[i]);
        printf("Enter the number you wish to insert an element\n");
        scanf("%d", &num);
    for(i=0;i<n;i++)
    {
        if(array[i]>num)
      {
        for (j = n-1; j >= i; j--)
                array[j+1] = array[j];
```

```c
            array[i] = num;
            break;
            }
        }
            printf("Resultant array after insertion of %d is \n", num);
            for (i=0; i<=n; i++)
                    printf("%d", array[i]);
            return 0;
}
```

```
Enter number of elements in array
5
Enter 5 elements
1 2 3 4 5
Enter the number you wish to insert an element
6
Resultant array after insertion of 6 is
123450
```

3. C Program to delete a number at a given location in an array.

```c
#include <stdio.h>
int main()
{
  int array[10], position, i, n;
        printf("Enter number of elements in array\n");
  scanf("%d", &n);
            printf("Enter %d elements\n", n);
            for (i = 0; i < n;i++)
    scanf("%d", &array[i]);
            printf("Enter the location where you wish to delete element\n");
  scanf("%d", &position);
          if (position >= n+1)
    printf("Deletion not possible\n");
 else
 {
    for (i = position; i < n - 1; i++)
      array[i] = array[i+1];
    printf("Resultant array:\n");
    for (i = 0; i < n - 1; i++)
      printf("%d\t", array[i]);
  }
  return 0;
}
```

```
Enter number of elements in array
5
Enter 5 elements
5 6 7 8 9
Enter the location where you wish to delete element
2
Resultant array:
5       6       8       9
```