Source Code

```
#include <stdio.h>
#include <malloc.h>

void swap(int *a, int *b)
{
    *a = *a + *b;
    *b = *a - *b;
    *a = *a - *b;
}

void bubbleSort(int arr[], int size)
{
    for (int i = 0; i < size - 1; i++)
    {
        for (int j = 0; j < size - 1 - i; j++)
        {
            if (arr[j] > arr[j + 1])
            {
                swap(&arr[j], &arr[j + 1]);
            }
        }
    }
}

void selectionSort(int arr[], int size)
{
    for (int i = 0; i < size - 1; i++)
    {
        for (int j = i + 1; j < size; j++)
        {
            if (arr[j] < arr[i])
            {
                swap(&arr[j], &arr[i]);
            }
        }
    }
}

int main()
{
    int choice, size, *arr;
    while (1)
    {
        printf("\nEnter option:\n (0) bubble sort \n (1) selection sort\n ");
        scanf("%d", &choice);

        printf("Enter size of array to sort/search\n");
        scanf("%d", &size);
        arr = (int *)malloc(sizeof(int) * size);
        printf("Enter array in unsorted form\n");
```

```
        for (int i = 0; i < size; i++)
            scanf("%d", &arr[i]);

        switch (choice)
        {
        case 0:
            bubbleSort(arr, size);
            printf("Sorted array using Bubble Sort:\n");
            for (int i = 0; i < size; i++)
                printf("%d ", arr[i]);
            printf("\n");
            break;
        case 1:
            selectionSort(arr, size);
            printf("Sorted array using Selection Sort:\n");
            for (int i = 0; i < size; i++)
                printf("%d ", arr[i]);
            printf("\n");
            break;
        }
        free(arr);
    }
}
```

Output

```
Enter option:
 (0) bubble sort
 (1) selection sort
 0
Enter size of array to sort/search
3
Enter array in unsorted form
2 3 1
Sorted array using Bubble Sort:
1 2 3

Enter option:
 (0) bubble sort
 (1) selection sort
 1
Enter size of array to sort/search
4
Enter array in unsorted form
5 7 3 2
Sorted array using Selection Sort:
2 3 5 7
```