Program

```c
#include <stdio.h>

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

void printArray(int arr[], int size) {
  for (int i = 0; i < size; i++) {
    printf("%d ", arr[i]);
  }
  printf("\n");
}

int main() {
  int n;
  printf("Enter the number of elements: ");
  scanf("%d", & n);
  int arr[n];

  printf("Enter %d elements: \n", n);
  for (int i = 0; i < n; i++) {
    scanf("%d", & arr[i]);
  }

  printf("Original array: \n");
  printArray(arr, n);

  bubbleSort(arr, n);

  printf("Sorted array: \n");
  printArray(arr, n);

  return 0;
}
```

Experiment No: 20
Date:

BUBBLE SORT

Aim:

To sort a given list of elements using Bubble sort.

Algorithm:

1. Start.
2. Define a function void bubbleSort(int arr[],int n)

```
Begin  for loop from i=0 to n-1
     Begin  for loop from j=0 to n-1-i
          if arr[j]>arr[j+1]:
              temp=arr[j];
              arr[j]=arr[j+1];
              arr[j+1]=temp;
     End for loop
 End for loop
```

3. Define a function void printArray(int arr[],int size).

```
Begin a for loop from i=0 to size-1
    print arr[i]
    i++
End for loop
```

4. Create main function()
   Declare int n, arr[n]
   Print"Enter the array Size"
   Scan the value to n
   Print "Enter the elements of the array"

```
Begin for loop from i=0 to n-1
  Read arr[i]
  i++
End for loop
```

   Print "Original array"

Output

```
Enter the number of elements: 4
Enter 4 elements:
4
2
7
9
Original array:
4 2 7 9
Sorted array:
2 4 7 9
```

```
Call printArray(arr,n).


Call bubbleSort(arr,n)
```

Print"Sorted array"

```
Call printArray(arr,n).
```

5. Stop.

Result:

Program has been executed successfully and obtained the output.