



Name: Ganath Avinash G.R

CSE – B

CH.SC.U4CSE24118

Week –2(4/12/2025)

1.Bubble Sort

```
C bubblesort.c > ...
1  #include <stdio.h>
2
3  void bubble_sort(int* arr,int l){
4      for(int i=0;i<l;i++){
5          for(int j=0;j<l;j++){
6              if(arr[j]>arr[j+1]){
7                  int t=arr[j];
8                  arr[j]=arr[i];
9                  arr[i]=t;
10             }
11         }
12     }
13 }
14
15 int main(){
16     int arr[]={11,2,12,3,245,3,4,2,4,5,7,4,567,5,4,44};
17     bubble_sort(arr,15);
18     printf("Bubble Sorted O(n^2): \n");
19     for(int i=0;i<15;i++){
20         printf(" %d ",arr[i]);
21     }
22     printf("\n");
23 }
```

OUTPUT:

```
amma@amma15:~/Documents/CH.SC.U4CSE24217$ gcc -o bb bubblesort.c
amma@amma15:~/Documents/CH.SC.U4CSE24217$ ./bb
Bubble Sorted O(n^2):
 2  2  3  3  4  4  4  4  5  5  7  11  12  245  567
amma@amma15:~/Documents/CH.SC.U4CSE24217$
```

2.Selection Sort

```
C selectsort.c > ...
1  #include <stdio.h>
2
3  void selection_sort(int* arr,int l){
4      for(int i=0;i<l;i++){
5          int midx=i;
6          for(int j=i+1;j<l;j++){
7              if(arr[midx]>arr[j]){
8                  midx=j;
9              }
10         }
11         int t=arr[i];
12         arr[i]=arr[midx];
13         arr[midx]=t;
14     }
15 }
16
17 int main(){
18     int arr[]={11,2,12,3,245,3,4,2,4,5,7,4,567,5,4,44};
19     selection_sort(arr,15);
20     printf("Selection Sorted O(n^2): \n");
21     for(int i=0;i<15;i++){
22         printf(" %d ",arr[i]);
23     }
24     printf("\n");
25 }
```

OUTPUT:

```
anna@anna15:~/Documents/CH.SC.U4CSE24217$ gcc -o ss selectsort.c
anna@anna15:~/Documents/CH.SC.U4CSE24217$ ./ss
Selection Sorted O(n^2):
 2  2  3  3  4  4  4  5  5  7  11  12  245  567
anna@anna15:~/Documents/CH.SC.U4CSE24217$
```

3.Insertion Sort

```
C inserts.c > ...
1  #include <stdio.h>
2
3  void inser_sort(int* arr,int l){
4      for(int i=0;i<l;i++){
5          int key=arr[i];
6          int j=i-1;
7          while(j>=0 && arr[j]>key){
8              arr[j+1]=arr[j];
9              j--;
10         }
11         arr[j+1]=key;
12     }
13 }
14
15 int main(){
16     int arr[]={11,2,12,3,245,3,4,2,4,5,7,4,567,5,4,44};
17     inser_sort(arr,15);
18     printf("Insertion Sorted O(n^2): \n");
19     for(int i=0;i<15;i++){
20         printf(" %d ",arr[i]);
21     }
22     printf("\n");
23 }
```

OUTPUT:

```
amma@amma15:~/Documents/CH.SC.U4CSE24217$ gcc -o is inserts.c
amma@amma15:~/Documents/CH.SC.U4CSE24217$ ./is
Insertion Sorted O(n^2):
 2  2  3  3  4  4  4  4  5  5  7  11  12  245  567
amma@amma15:~/Documents/CH.SC.U4CSE24217$
```