Day-5

1. Write a program of binary search taking the inputs by the user[Arrays]

Code:

```
#include<stdio.h>
int main(){
  printf("Enter the size of an array\n");
  int n;
  scanf("%d",&n);
  int a[n];
  printf("Enter the elements into an array\n");
  for(int i=0; i< n; i++){
    scanf("%d",&a[i]);
  int s=0,e=n-1,mid;
  printf("Enter the element to be searched: \n");
  int k;
  scanf("%d",&k);
  while(s<e){</pre>
     int mid=(s+e)/2;
    if(a[mid]==k)
       printf("Found at index:: %d",mid);
       return 1;
    else if(k>a[mid]){
       s=mid+1;
     else
       e=mid-1;
  printf("Element not found\n");
```

Output:

```
Enter the size of an array

5
Enter the elements into an array
23 56 87 32 44
Enter the element to be searched:
87
Found at index:: 2
```

2. Write a program to delete an element in an array.

Code:

```
#include<stdio.h>
int main(){
  printf("Enter the size of an array\n");
  int n;
  scanf("%d",&n);
  int a[n];
  printf("Enter the elements into an array\n");
  for(int i=0; i<n; i++){
     scanf("%d",&a[i]);
  }
  printf("Enter the element to delete\n");
  int del;
  scanf("%d",&del);
  for(int i=0; i< n; i++){
     if(del==a[i]){
       printf("Element deleted at index %d \n", i);
       a[i] = 0;
     }
   }
  for(int i=0; i<n; i++){
     printf("%d ", a[i]);
  }
  return 0;
}
```

Output:

```
Enter the size of an array

5
Enter the elements into an array
23 45 65 87 55
Enter the element to delete
65
Element deleted at index 2
23 45 0 87 55
```

3.write a program to find how many elements delete in the array by asking user behavior.

Code:

```
#include<stdio.h>
int main(){
  printf("Enter the size of an array\n");
  int n;
  scanf("%d",&n);
  int a[n];
  printf("Enter the elements into an array\n");
  for(int i=0; i<n; i++){
     scanf("%d",&a[i]);
  }
  delete:
  printf("Enter the element to delete\n");
  int del;
  scanf("%d",&del);
  for(int i=0; i<n; i++){
     if(del==a[i]){
       printf("Element deleted at index %d \n", i);
       a[i] = 0;
     }
```

```
}
printf("Array after deletion\n");
for(int i=0; i<n; i++){
  printf("a[%d]:: %d\n ",i, a[i]);
}
printf("Do you want to delete another element\n");
printf("Press 1 for delete another element\n");
printf("Press 2 to continue\n");
int choice;
scanf("%d", &choice);
if(choice == 2){
  int c=0;
  for(int i=0; i<n; i++){
     if(a[i]==0)
       c++;
  }
  printf("Total spaces available in array is: %d\n",c);
else if(choice == 1){
  goto delete;
}
return 0;
```

}

Output:

```
Enter the elements into an array

2 4 5 65 87 55
Enter the element to delete

87
Element deleted at index 3
Array after deletion
a[0]:: 23
a[1]:: 45
a[2]:: 65
a[3]:: 6
a[3]:: 9
a[4]:: 55
Do you want to delete another element
Press 1 for delete another element

1 Enter the element to delete

45
Element deleted at index 1
Array after deletion
a[0]:: 23
a[1]:: 6
a[2]:: 65
a[3]:: 0
a[3]:: 0
a[4]:: 55
Do you want to delete another element

Press 2 to continue

1 Enter the element to delete

45
Element deleted at index 1
Array after deletion
a[0]:: 23
a[1]:: 0
a[2]:: 65
a[3]:: 0
a[4]:: 55
Do you want to delete another element
Press 3 for delete another element
Press 4 for delete another element
Press 5 for delete another element
Press 2 to continue
```

4. Write a program to print the Elements in an array.

Code:

```
#include<stdio.h>
void print(int a[],int n){
  for(int i=0; i<n; i++){
    printf("%d", a[i]);
  }
}
int main(){
  printf("Enter the size of an array\n");
  int n;
  scanf("%d",&n);
  int a[n];
  printf("Enter the elements into an array\n");
  for(int i=0; i<n; i++){
    scanf("%d",&a[i]);
  }
  print(a,n);
}</pre>
```

Output:

```
Enter the size of an array

5
Enter the elements into an array

43 77 44 99 34

43 77 44 99 34
```