

```
1 package data;
2
3 //Code by Shahid Nasir 15531
4 //Q1-a
5 //Traversing an array using for loop
6
7 public class TraversingUsingFor{
8
9     |
10 public static void main(String[] args)
11 {
12     int [] A= {3,5,7,6,8,9,9};
13     int i=0;
14     for(i=0; i<A.length; i++)
15     {
16         System.out.println(A[i]);
17     }
18 }
19 }
20
```

Console

<terminated> TraversingUsingFor [Java Application] C:\Program Files\Ja

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5
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```
1 package data;
2
3 //Code by Shahid Nasir 15531
4 //Q1-b
5 // Traversing an array using while loop
6
7 public class TaversingUsingWhile{
8
9     public static void main(String[] args) {
10         int [] x= {4,5,6,7,8,9,10,11,11,12};
11
12         int i=1;
13         while(i<x.length)
14         {
15             System.out.println(x[i]);
16             i=i+1;
17         }
18     }
19 }
```

Console

<terminated> TaversingUsingWhile [Java Application] C:\Program Files\Ja

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12

```
1 package data;
2
3 //Code by Shahid Nasir 15531
4 //Q1-c
5 //Inserting an element in an array
6 public class InsertingAnElement{
7
8     public static void main(String[] args){
9         int[]a= {10,20,30,80,90};
10        int pos=3;
11        int element=100;
12        for(int i=a.length-1;i>pos-1;i--)
13        {
14            a[i]=a[i-1];
15        }
16
17        a[pos-1]=element;
18        for(int i=0; i<a.length; i++)
19        {
20            System.out.println(a[i]+" ");
21        }
22    }
23 }
24 }
25 }
```

Console

<terminated> InsertingAnElement [Java Application] C:\Program File

```
10
20
100
30
80
```

```
1 package data;
2
3 //Code by Shahid Nasir 15531
4 //Q1-d
5 //Deleting an element from an array
6
7 public class DeletingElement{
8 |
9     public static void main(String[] args) {
10     int a[]={10,20,50,90,100};
11     int delete=50;
12     for(int i=0; i<a.length; i++)
13     {
14         if(delete==a[i])
15         {
16             for(int j=i; j<a.length-1; j++)
17             {
18                 a[j]=a[j+1];
19             }
20             break;
21         }
22     }
23     for(int i=0;i<a.length-1; i++)
24     {
25         System.out.println(a[i]+" ");
26     }
27 }
```

Console

<terminated> DeletingElement [Java Application] C:\Program Files\Java\jdk-13.0.1\bin

```
10
20
90
100
```

```
1 package data;
2
3 //Code by Shahid Nasir 15531
4 //Q2
5 //Linear search algorithm
6
7 public class linearSearch{
8
9     public static void main(String[] args){
10
11         int a[]={3,4,5,6,7,8};
12         int i=1;
13         boolean found= false;
14         int item=5;
15         int max=6;
16
17         while(i<=max && found==false)
18         {
19             if (a[i]==item)
20             {
21                 found=true;
22             }
23             else
24             {
25                 i=i+1;
26             }
27         }
28         if(found==true)
29         {
30             System.out.println("search successful");
31         }
32     }
```

Console

<terminated> linearSearch [Java Application] C:\Program Files\Java\jdk-13.0.1\bin\javaw.exe
search successful

```

1 package data;
2
3 //Code by Shahid Nasir 15531
4 //Q3
5 //Binary search algorithm
6 |
7 public class BinarySearch {
8
9     public static void main(String[] args){
10         int a[]= {10,20,30,40,50,60};
11         int item=50;
12         int lb=1;
13         int ub=6;
14         boolean found=false;
15         while(lb<ub && found==false)
16         {
17             int mid=(ub+lb)/2;
18             if(item==a[mid])
19             {
20                 found=true;
21             }
22             if(item<a[mid])
23             {
24                 ub=mid-1;
25             }
26             else
27             {
28                 lb=mid+1;
29             }
30         }
31         if(found=true)
32         {
33             System.out.println("Search successful");
34         }
35         else
36         {System.out.println("Search unsuccessful");}
37     }}
38
39
40

```

Console

<terminated> BinarySearch [Java Application] C:\Program Files\Java\jdk-13.0.1\bin\
Search successful