Searching

**package** com.java.pgms;

**import** java.util.Scanner;

**public** **class** Linear {

**public** **static** **void** main(String[] args)

{

Scanner s =**new** Scanner(System.*in*);

System.*out*.println("1.Linera search");

System.*out*.println("2.binary search");

System.*out*.println("enter your choice");

**int** ch=s.nextInt();

**if**(ch==1)

{

**int** arr[]=**new** **int**[10];

**int** i,num,n,c=0,pos=0;

Scanner scan = **new** Scanner(System.*in*);

System.*out*.println("enter the array size:");

n=scan.nextInt();

System.*out*.println("enter array elements:");

**for**(i=0;i<n;i++)

{

arr[i]=scan.nextInt();

}

System.*out*.println("enter the number of items to be searched");

num=scan.nextInt();

**for**(i=0;i<n;i++)

{

**if**(arr[i]==num)

{

c=1;

pos=i+1;

**break**;

}

}

**if**(c==0)

{

System.*out*.println("number not found");

}

**else**

{

System.*out*.println(num+"found at position" + pos);

}

}

**else** **if**(ch==2)

{

**int** n,i,search,first,last,middle,flag=0;

**int**[]arr=**new** **int**[50];

System.*out*.println("enter number of elements:");

Scanner scan = **new** Scanner(System.*in*);

n=scan.nextInt();

System.*out*.println("enter elements in sorted order:");

**for**(i=0;i<n;i++)

{

arr[i]=scan.nextInt();

}

System.*out*.println("enter the number rto be searched:");

search=scan.nextInt();

scan.close();

first=0;

last=n-1;

**while**(first<=last)

{

middle=(first+last)/2;

**if**(arr[middle]<search)

{

first=middle+1;

}

**else** **if**(arr[middle]==search)

{

System.*out*.println(search+ "found at location"+(middle+1));

flag=1;

**break**;

}

**else**

{

last=middle-1;

}

**if**(flag==0)

{

System.*out*.println("notfound");

}

}

}

}

}