Binary search of an element

ALGORITHM:

Step:1 Find the middle element of array using middle=initial value +end \_value/2

Step:2 if middle =element ,return element found and index

Step:3 if middle>element, call the function with end\_value=middle-1

Step:4 if middle<element, call the function with start\_value=middle+1

Step:5 exit

//program to execute binary search//

#include<studio.h>

Int binary\_search(int arr[],int x,int low,int high’) //declaring the function//

{

If(high>=low)

{

Int mid=low+(high-low)/2;

Int(arr[mid]==x) //checking if the element is at index mid//

return mid;

if(arr[mid]>x)

return binary\_search(arr,x,mid+1,low); //checking if the element is at the index gearter than mid //

if(arr[mid]<x)

return binary\_search(arr,mid+1,high); //checking if the element is at the index less than mid

}

return -1;

}

Int main(void)

{

Int arr[]={3,4,5,6,7,8,9};

Int n=sizeof(arr)/sizeof(arr[0]);

Int x=4;

Int result =binary\_search(arr,x,0,n-1); //calling the function//

If(result==-1)

printf(“not found”);

else  
printf(“element is found at index %d,result); //printing the result //

}

OUTPUT:

