**9)BINARY SEARCH**

**Program:**

#include<stdio.h>

int main()

{

int c,first,last,middle,n,search,a[20];

printf("enter the size of a array");

scanf("%d",&n);

printf("enter the %d elements\n",n);

for (c=0;c<n;c++)

scanf("%d",&a[c]);

printf("enter a number to search\n",n);

scanf("%d",&search);

first=0;

last=n-1;

middle=(first+last)/2;

while (first<=last)

{

if (a[middle]<search)

first=middle+1;

else if(a[middle]==search)

{

printf("%d is found in location %d\n",search,middle+1);

break;

}

else

last=middle-1;

middle=(first+last)/2;

}

if (first>last)

printf("%d is not found in array\n",search);

return 0;

}

**Output:**

