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**Lab manual -03**

**Problem 01:**

#include<bits/stdc++.h>

using namespace std;

int main()

{

int n,key,i;

cout<<"Enter the number of element of the array: ";

cin>>n;

int ara[n];

cout<<"Enter elements: ";

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

cin>>ara[i];

cout<<"Enter Key: ";

cin>>key;

int flg=-1;

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

{

if(ara[i]==key)

flg=i;

}

if(flg==-1)

cout<<"Item not found"<<endl;

else

cout<<"Last occurrence = "<<flg<<endl;

return 0;

}

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**Problem 02:**

#include<bits/stdc++.h>

using namespace std;

int main()

{

int n,Search,i;

cout<<"Enter the number of product: ";

cin>>n;

int ara[n];

cout<<"Enter product code: ";

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

cin>>ara[i];

cout<<"Enter code to search: ";

cin>>Search;

int flg=-1;

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

{

if(ara[i]==Search)

flg=i;

}

if(flg==-1)

cout<<"Product not available"<<endl;

else

cout<<"Position = "<<flg<<" Row"<<endl;

return 0;

}

**PROBLEM 03:**

#include<bits/stdc++.h>

using namespace std;

int main()

{

int n,Search,i;

cout<<"Enter the number of element: ";

cin>>n;

int ara[n];

cout<<"Enter all elements: ";

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

cin>>ara[i];

cout<<"Enter key: ";

cin>>Search;

int flg=-1;

int low=0;

int high=n-1;

int mid=(low+high)/2;

while(low<=high)

{

if(ara[mid]==Search)

{

flg=1;

break;

}

else if(ara[mid]<Search)

low=mid+1;

else if(ara[mid]>Search)

high=mid-1;

mid=(low+high)/2;

}

if(flg==-1)

cout<<"Not Found"<<endl;

else

cout<<"Found at "<<mid<<" Position"<<endl;

return 0;

}