**DAA PRACTICAL**

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**BINARY SEARCH PROGRAM**

#include<iostream>

using namespace std;

int main(){

int i,n;

int a[9]; // Declaring an integer array 'a' of size 9

cout<<"Enter the elements in array :"<<endl;

for(i=0; i<9; i++){

cin>>a[i]; // Taking input for each element of the array from the user

}

int low = 0;

int high = 9-1;

int mid = (low+high)/2; // Calculating the middle index of the array

cout<<"Enter the element to be searched:"; cin>>n;

for(i=0; i<9; i++){

if (n == mid) { // Checking if the element to be searched is equal to the middle element

cout<<"Element found !";

break; // Exiting the loop

}

if(n > mid) {

low = mid+1; }

if (n < mid) {

high = mid-1; }

mid = (low+high)/2; // Calculating the new middle index

}

if(i == 9)

cout<<"\nElement not found!"; // Displaying a message indicating element not found

return 0; // Indicating successful completion of the program

}

// OUTPUT :

