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## Tugas Alpro Minggu 7

**main.cpp:**

```
#include <iostream>
#include "header.h"
```

```
using namespace std;
```

```
int main()
```

```
{ int arr[] = {3,19,11,4};
```

```
  int size_arr = sizeof (arr) / sizeof (arr[0]);
```

```
  cout << " apakah angka 19 ada di array ? " << LinierSearch(19,size_arr,arr) << endl;
```

```
  cout << " apakah angka 19 ada di array ? " << LinierSearchSentinel(19,size_arr,arr) << endl;
```

```
  int arr_urut[] = {3,4,11,19};
```

```
  int size_arr_urut = sizeof (arr_urut) / sizeof (arr_urut[0]);
```

```
  cout << " apakah angka 19 ada di array ? " << BinarySearch(19,size_arr,arr) << endl;
```

```
  return 0;
```

```
}
```

## header.h:

```
#ifndef HEADER_H_INCLUDED
```

```
#define HEADER_H_INCLUDED
```

```
#include <iostream>
```

```
#include <conio.h>
```

```
using namespace std;
```

```
bool LinierSearch ( int k, int n, int A[])
```

```
{
```

```
    bool found = false;
```

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

```
    {
```

```
        //cout << endl << A[i] << " == " << k << endl;
```

```
        if (A[i] == k)
```

```
        {
```

```
            found=true;
```

```
            break;
```

```
        }
```

```
    }
```

```
    return found;
```

```
}
```

```
int LinierSearchSentinel ( int k, int n, int A[])
```

```
{
```

```
    int found = 0;
```

```
    A[n-1] = k;
```

```
    int i=0;
```

```

while (A[i]!=k)
{
    i++;

}
if (i<n-1)
{
    found = 1;

}
return found;
}
bool BinarySearch ( int k, int n, int A[])
{
    int found = 0;
    int batasBawah = 0;
    int batasAtas = n-1;
    int mid = 0;

    while ((batasBawah <= batasAtas) && (!found))
    {
        mid = ( batasAtas+batasBawah)/2;
        if (A[mid] == k)
        {
            found = 1;

        }
        else

```

```
{  
    if (A[mid] > k)  
    {  
        batasAtas = mid-1;  
  
    }  
    else  
    {  
        batasBawah = mid+1;  
    }  
}  
}  
return found;  
}  
  
#endif // HEADER_H_INCLUDED
```

Hasil compile:

```
apakah angka 19 ada di array ? 1  
apakah angka 19 ada di array ? 1  
apakah angka 19 ada di array ? 1
```