

Pertemuan 3

The screenshot shows a C++ IDE with a file named `tugas aja.cpp` containing a binary search algorithm. The code defines a `binarySearch` function that takes an array, its size, and a search value. It implements a standard binary search by repeatedly dividing the search interval in half. The `main` function initializes an array `{2, 5, 7, 8, 10, 23, 25, 30, 50, 100}` and searches for the value 10. The output window shows the search results: 'Masukka data yang dicari : 10' and 'data index 4'. A status message at the bottom of the output window indicates the process exited after 1.629 seconds.

```
1 // Nanang Tri Nur Wicaksono
2 // 231011700253
3
4 //Algoritma pencarian bagi 2
5
6 #include<iostream>
7 using namespace std;
8
9 int binarySearch(int arr[10],int size,int search){
10     int low = 0;
11     int high = size-1;
12     int sizes = sizeof(arr) / sizeof(arr[0]);
13     while(low <= high){
14         int mid = low + (high - low) / 2;
15         if(arr[mid] == search)
16             return mid;
17         else if(arr[mid] < search)
18             return low = mid + 1;
19         else{
20             return high = mid - 1;
21         }
22     }
23     // return -1;
24 }
25
26 int main(){
27     int data[10]= {2,5,7,8,10,23,25,30,50,100};
28     int size = sizeof(data) / sizeof(data[0]);
29     int search;
30     cout<<"Masukka data yang dicari : ";
31     cin>>search;
32     int res = binarySearch(data,size,search);
33     if(res >= 0)
34         cout<<"data index "<<res<<endl;
35     else
36         cout<<"data ga ada "<<endl;
37 }
38 }
```

Output:

```
Masukka data yang dicari : 10
data index 4

Process exited after 1.629 seconds with return value 0
Press any key to continue . . .
```

```
// Nanang Tri Nur Wicaksono
```

```
// 231011700253
```

```
//Algoritma pencarian bagi 2
```

```
#include<iostream>
```

```
using namespace std;
```

```
int binarySearch(int arr[10],int size,int search){
    int low = 0;
    int high = size-1;
    int sizes = sizeof(arr) / sizeof(arr[0]);
    while(low <= high){
        int mid = low + (high - low) / 2;
        if(arr[mid] == search)
            return mid;
        else if(arr[mid] < search)
            return low = mid + 1;
        else{
            return high = mid - 1;
        }
    }
    // return -1;
}
```

```
int main(){
    int data[10]= {2,5,7,8,10,23,25,30,50,100};
```

```

int size = sizeof(data) / sizeof(data[0]);
int search;
cout<<"Masukka data yang dicari : ";
cin>>search;
int res = binarySearch(data,size,search);
if(res >= 0)
    cout<<"data index "<<res<<endl;
else
    cout<<"data ga ada "<<endl;
}

```

```

1 // Nanang Tri Nur Wicaksono
2 // 231011700253
3
4 //Algoritma pencarian bagi 2
5
6 #include<iostream>
7 using namespace std;
8
9 int binarySearch(int arr[10],int size,int search){
10     int low = 0;
11     int high = size-1;
12     int sizes = sizeof(arr) / sizeof(arr[0]);
13     while(low <= high){
14         int mid = low + (high - low) / 2;
15         if(arr[mid] == search)
16             return mid;
17         else if(arr[mid] < search)
18             return low = mid + 1;
19         else
20             return high = mid - 1;
21     }
22     // return -1;
23 }
24
25
26 int main(){
27     int data[10] = {2,5,7,8,10,23,25,30,50,100};
28     int size = sizeof(data) / sizeof(data[0]);
29     int search;
30     cout<<"Masukka data yang dicari : ";
31     cin>>search;
32     int res = binarySearch(data,size,search);
33     if(res >= 0)
34         cout<<"data index "<<res<<endl;
35     else
36         cout<<"data ga ada "<<endl;
37 }
38

```