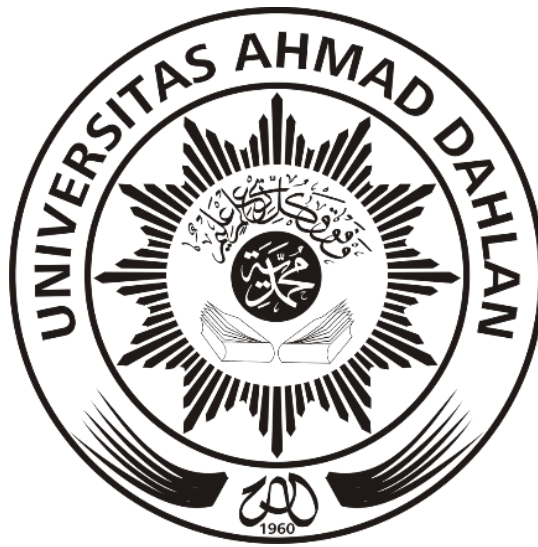


**LAPORAN PRAKTIKUM
ALGORITMA PEMROGRAMAN**



**Disusun Oleh:
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**PROGRAM STUDI INFORMATIKA
FAKULTAS TEKNOLOGI INDUSTRI
UNIVERSITAS AHMAD DAHLAN**

DESEMBER 2022

Kegiatan

```
File Edit Selection View Go Run Terminal Help
kegiatan.cpp - Praktikum - Visual Studio Code

kegiatan.cpp 1 U X
Pertemuan 7 > cpp > @ kegiatan.cpp >...
1 #include <iostream>
2 using namespace std;
3
4 class sorting{
5     friend ostream& operator<<(ostream& out, sorting& a);
6     friend ostream& operator>>(ostream& in, sorting& a);
7 public:
8     void selection_sort();
9     int pencarianBiner(int low, int high);
10    int n,data[10];
11 private:
12    void minimum(int,int,int&);
13    void tukar(int&,int&);
14 };
15
16 void sorting::minimum(int dari,int n, int &tempat){
17     int min = data[dari];
18     tempat = dari;
19     for (int i = dari+1; i < n; i++)
20     {
21         if (data[i] < min)
22         {
23             min = data[i];
24             tempat = i;
25         }
26     }
27 }
28
29 void sorting::tukar(int &a, int &b){
30     int temp = a;
31     a = b;
32     b = temp;
33 }
34
35 void sorting::selection_sort(){
36     int t;
37     for (int i = 0; i < n-1; i++)
38     {
39         minimum(i,n,t);
40         tukar(data[i],data[t]);
41     }
42 }
43
44 int sorting::pencarianBiner(int low, int high){
45     int middle;
46     while (low<high){
47         middle = (low+high)/2;
48         if (data[middle] == n){
49             return middle;
50         }
51     }
52     return -1;
53 }
54
55 int main(){
56     sorting a;
57     cout<<"Masukkan jumlah data : ";
58     cin>>a.n;
59     cout<<"Masukkan data : ";
60     for (int i = 0; i < a.n; i++)
61     {
62         cin>>a.data[i];
63     }
64     cout<<"Data yang akan dicari : ";
65     int n;
66     cin>>n;
67     a.selection_sort();
68     cout<<"Data setelah diurutkan : ";
69     for (int i = 0; i < a.n; i++)
70     {
71         cout<<a.data[i]<<" ";
72     }
73     cout<<endl;
74     cout<<"Data yang dicari : "<<n<<endl;
75     cout<<"Data ditemukan pada Indeks ke : "<<a.pencarianBiner(0,a.n-1);
76     return 0;
77 }
```

```
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kegiatan.cpp - Praktikum - Visual Studio Code

kegiatan.cpp 1 U X
Pertemuan 7 > cpp > @ kegiatan.cpp >...
35 void sorting::selection_sort(){
36     int t;
37     for (int i = 0; i < n-1; i++)
38     {
39         minimum(i,n,t);
40         tukar(data[i],data[t]);
41     }
42 }
43
44 int sorting::pencarianBiner(int low, int high){
45     int middle;
46     while (low<high){
47         middle = (low+high)/2;
48         if (data[middle] == n){
49             return middle;
50         }
51     }
52     return -1;
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55 int main(){
56     sorting a;
57     cout<<"Masukkan jumlah data : ";
58     cin>>a.n;
59     cout<<"Masukkan data : ";
60     for (int i = 0; i < a.n; i++)
61     {
62         cin>>a.data[i];
63     }
64     cout<<"Data yang akan dicari : ";
65     int n;
66     cin>>n;
67     a.selection_sort();
68     cout<<"Data setelah diurutkan : ";
69     for (int i = 0; i < a.n; i++)
70     {
71         cout<<a.data[i]<<" ";
72     }
73     cout<<endl;
74     cout<<"Data yang dicari : "<<n<<endl;
75     cout<<"Data ditemukan pada Indeks ke : "<<a.pencarianBiner(0,a.n-1);
76     return 0;
77 }
```

```
File Edit Selection View Go Run Terminal Help
keglatan.cpp - Praktikum Visual Studio Code

keglatan.cpp 1 X
Pertemuan 7 > c++ > keglatan.cpp > ...
25 void sorting::selection_sort(){
26     int t;
27     for (int i = 0; i < n-1; i++){
28         {
29             minimum(i,n,t);
30             tukar(data[i],data[t]);
31         }
32     }
33 }
34
35 int sorting::pencarianBiner(int low, int high){
36     int middle;
37     while (low<=high){
38         middle = (low+high)/2;
39         if (data[middle] == n){
40             return middle;
41         }
42     }
43     else if (data[middle] < n){
44         low = middle+1;
45     }
46     else{
47         high = middle-1;
48     }
49     return -1;
50 }
51
52 PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
53
54 Windows PowerShell
55 Copyright (c) Microsoft Corporation. All rights reserved.
56
57 Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
58
59 PS D:\Semester 2\Algoritma Pemrograman\Praktikum\Pertemuan 7\cpp> if ($?) { g++ keglatan.cpp -o keglatan }; if ($?) { .\keglatan }
60 Masukkan jumlah data : 4
61 Masukkan data : 1
62 2
63 3
64 4
65 Data yang akan dicari : 3
66 Data setelah diurutkan : 1 2 3 4
67 Data yang dicari : 3
68 Data ditemukan pada indeks ke : 3
69 PS D:\Semester 2\Algoritma Pemrograman\Praktikum\Pertemuan 7\cpp>
```