

Nama : Muhammad Agha Zulfadhli

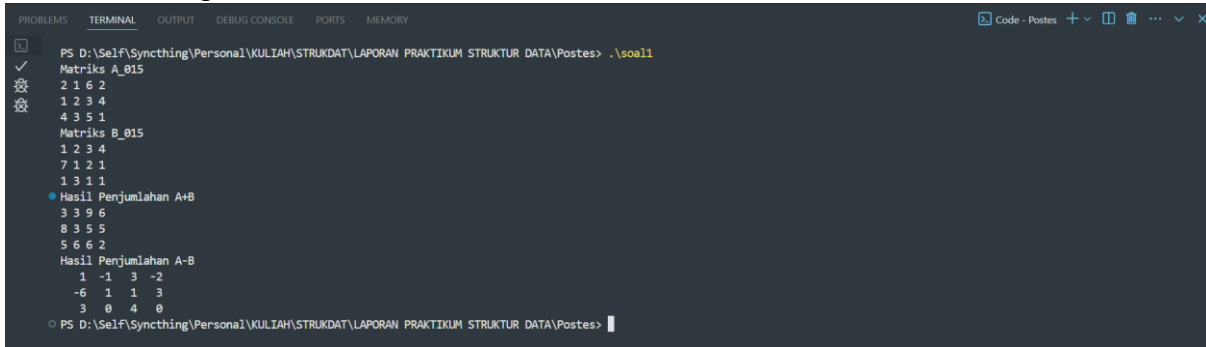
NIM : 2311102015

**LEMBAR JAWAB**  
**POST TEST PRAKTIKUM STRUKTUR DATA**  
**Kelas S1IF-11-A**

1. Source Code

```
1. #include <iostream>
2. #include <iomanip>
3. using namespace std;
4.
5. int main() {
6.     int mA_015[3][4] = {{2,1,6,2},{1,2,3,4},{4,3,5,1}};
7.     int mB_015[3][4] = {{1,2,3,4},{7,1,2,1},{1,3,1,1}};
8.
9.     cout << "Matriks A_015\n";
10.    for (int i = 0; i < 3; i++) {
11.        for (int j = 0; j < 4; j++) {
12.            cout << mA_015[i][j] << " ";
13.        }
14.        cout << endl;
15.    }
16.    cout << "Matriks B_015\n";
17.    for (int i = 0; i < 3; i++) {
18.        for (int j = 0; j < 4; j++) {
19.            cout << mB_015[i][j] << " ";
20.        }
21.        cout << endl;
22.    }
23.    cout << "Hasil Penjumlahan A+B\n";
24.    for (int i = 0; i < 3; i++) {
25.        for (int j = 0; j < 4; j++) {
26.            cout << mA_015[i][j]+mB_015[i][j] << " ";
27.        }
28.        cout << endl;
29.    }
30.    cout << "Hasil Penjumlahan A-B\n";
31.    for (int i = 0; i < 3; i++) {
32.        for (int j = 0; j < 4; j++) {
33.            cout << right << setw(4) << mA_015[i][j]-
mB_015[i][j];
34.        }
35.        cout << endl;
36.    }
37.    return 0;
38. }
```

## Screenshot Output



```
PS D:\Self\Syncting\Personal\KULIAH\STRUKDAT\LAPORAN PRAKTIKUM STRUKTUR DATA\Postes> .\soal1
Matriks A_015
2 1 6
1 2 3
4 3 5
Matriks B_015
1 2 3
7 1 2
1 3 1
Hasil Penjumlahan A+B
3 3 9
8 3 5
5 6 6
Hasil Penjumlahan A-B
1 -1 3
-6 1 1
3 0 4
```

## 2. Source Code

```
1. #include <iostream>
2. #include <iomanip>
3. #include <bits/stdc++.h>
4. using namespace std;
5.
6. void searchName(string nama, char huruf) {
7.     for (int i = 0; i < nama.length(); i++) {
8.         if (huruf == nama[i]) {
9.             cout << "Data ditemukan pada index ke-" << i+1;
10.            return;
11.        }
12.    }
13.    cout << "Data tidak ditemukan";
14.    return;
15. }
16.
17. int main() {
18.     int choice, num2 = 0;
19.     char kata;
20.     string nama = "Agha";
21.     string nim = "2311102015";
22.
23.     cout << "----MENU PENCARIAN---\n"
24.     "1. Cari huruf dalam nama Agha\n"
25.     "2. Hitung banyaknya angka dalam NIM 2311102015\n"
26.     "Pilihan: ";
27.     cin >> choice;
28.
29.     switch (choice) {
30.     case 1:
31.         cout << left << setw(36) << "Nama " << nama << endl;
32.         cout << left << setw(36) << "Masukkan huruf yang
ingin dicari : ";
33.         cin >> kata;
34.         sort(nama.begin(), nama.end());
35.         cout << left << setw(36) << "Nama setelahurut " <<
nama << endl;
36.         searchName(nama, kata);
37.         break;
38.     case 2:
39.         for (int i = 0; i < nim.length(); i++) if (nim[i] ==
'2') num2++;
40.         cout << "Banyak angka 2 dalam NIM : " << num2;
41.         break;
42.     default:
```

```

43.             break;
44.         }
45.         return 0;
46.     }

```

## Screenshot Output

```

PS D:\Self\Syncthing\Personal\KULIAH\STRUKDAT\LAPORAN PRAKTIKUM STRUKTUR DATA\Postes> .\SOAL2
---MENU PENCARIAN---
1. Cari huruf dalam nama Agha
2. Hitung banyaknya angka dalam NIM 2311102015
Pilihan: 1
Nama                               Agha
Masukkan huruf yang ingin dicari : g
Nama setelahurut                    Aagh
Data ditemukan pada index ke-3
PS D:\Self\Syncthing\Personal\KULIAH\STRUKDAT\LAPORAN PRAKTIKUM STRUKTUR DATA\Postes> .\SOAL2
---MENU PENCARIAN---
1. Cari huruf dalam nama Agha
2. Hitung banyaknya angka dalam NIM 2311102015
Pilihan: 2
Banyak angka 2 dalam NIM : 2
PS D:\Self\Syncthing\Personal\KULIAH\STRUKDAT\LAPORAN PRAKTIKUM STRUKTUR DATA\Postes>

```

## 3. Source Code

```

1. #include <iostream>
2. using namespace std;
3.
4. struct Mahasiswa_015
5. {
6.     string nama;
7.     int nim;
8.     Mahasiswa_015 *next;
9.     Mahasiswa_015 *prev;
10. };
11.
12. Mahasiswa_015 *head, *tail, *curr, *hapus;
13.
14. void init()
15. {
16.     head = NULL;
17.     tail = NULL;
18. }
19.
20. bool isEmpty()
21. {
22.     return head == NULL;
23. }
24.
25. void insertDepan(string nama, int nim)
26. {
27.     Mahasiswa_015 *newMahasiswa = new Mahasiswa_015;
28.     newMahasiswa->nama = nama;
29.     newMahasiswa->nim = nim;
30.     newMahasiswa->next = NULL;
31.     newMahasiswa->prev = NULL;
32.
33.     if (isEmpty())

```

```

34.         {
35.             head = tail = newMahasiswa;
36.         }
37.     else
38.     {
39.         newMahasiswa->next = head;
40.         head->prev = newMahasiswa;
41.         head = newMahasiswa;
42.     }
43. }
44.
45. void insertBelakang(string nama, int nim) {
46.     Mahasiswa_015 *newMahasiswa = new Mahasiswa_015;
47.     newMahasiswa->nama = nama;
48.     newMahasiswa->nim = nim;
49.     newMahasiswa->next = NULL;
50.     newMahasiswa->prev = NULL;
51.
52.     if (isEmpty()) {
53.         head = tail = newMahasiswa;
54.         tail->next = NULL;
55.     } else {
56.         tail->next = newMahasiswa;
57.         tail = newMahasiswa;
58.     }
59. }
60.
61. void hapusBelakang()
62. {
63.     if (!isEmpty())
64.     {
65.         hapus = tail;
66.         tail = tail->prev;
67.         if (tail != NULL)
68.         {
69.             tail->next = NULL;
70.         }
71.         else
72.         {
73.             head = NULL;
74.         }
75.         delete hapus;
76.     }
77. }
78.
79. void hapusDepan() {
80.     if (isEmpty() == false){
81.         if (head->next != NULL){
82.             hapus = head;
83.             head = head->next;
84.             delete hapus;
85.         } else{
86.             head = tail = NULL;
87.         }
88.     } else{
89.         cout << "List kosong!" << endl;
90.     }
91. }
92.
93. void tampilList()
94. {

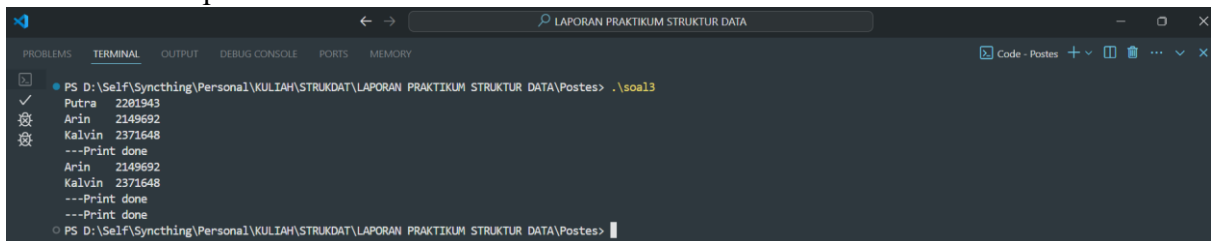
```

```

95.         curr = head;
96.         while (curr != NULL)
97.         {
98.             cout << curr->nama << "\t" << curr->nim << endl;
99.             curr = curr->next;
100.        }
101.        cout << "---Print done\n";
102.    }
103.
104.    int main()
105.    {
106.        init();
107.        insertDepan("Arin", 2149692);
108.        insertDepan("Putra", 2201943);
109.        insertBelakang("Kalvin", 2371648);
110.        tampilList();
111.
112.        hapusDepan();
113.        tampilList();
114.
115.        hapusBelakang();
116.        tampilList();
117.        return 0;
118.    }

```

## Screenshot Output



```

PS D:\Self\Syncthing\Personal\KULIAH\STRUKDAT\LAPORAN PRAKTIKUM STRUKTUR DATA\Postes> .\soal3
Putra 2201943
Arin 2149692
Kalvin 2371648
---Print done
Arin 2149692
Kalvin 2371648
---Print done
PS D:\Self\Syncthing\Personal\KULIAH\STRUKDAT\LAPORAN PRAKTIKUM STRUKTUR DATA\Postes>

```