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Kelas : TI 24 PA

Matkul : Algoritma dan Struktur Data

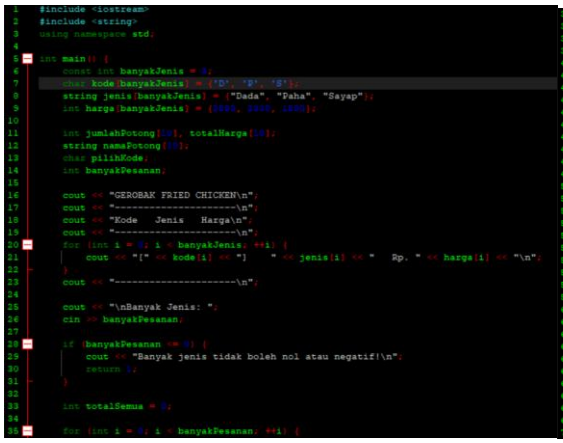
Tugas Algoritma & Stuktur Data

1. Penjumlahan, Pengurangan dan Perkalian Matrix

```cpp
#include <iostream>
using namespace std;

int main() {
    int rows, cols, i, j;
    char operasi;

    cout << "Program Perhitungan Matriks" << endl;
    cout << "---------------------------" << endl;
    cout << "Jenis Jenis Operasi:";
    cout << "\n+ = Penjumlahan";
    cout << "\n- = Pengurangan";
    cout << "\nx = Perkalian";
    cout << "\nMasukan Jenis Operasi :";
    cin >> operasi;
    cout << "Masukkan Jumlah Baris : ";
    cin >> rows;
    cout << "Masukkan Jumlah Kolom : ";
    cin >> cols;

    int MatrixX[rows][cols], MatrixY[rows][cols];

    cout << "\nMatrix X : " << endl;
    for (i = 0; i < rows; i++) {
        for (j = 0; j < cols; j++) {
            cout << "Matrix X" << "[" << i << "][" << j << "] : ";
            cin >> MatrixX[i][j];
        }
    }

    cout << "\nMatrix Y :" << endl;
    for (i = 0; i < rows; i++) {
        for (j = 0; j < cols; j++) {
            cout << "Matrix Y" << "[" << i << "][" << j << "] : ";
            cin >> MatrixY[i][j];
        }
    }

    if (operasi == '+') {
        cout << "\nHasil Penjumlahan Matrix X dan Matrix Y : " << endl;
        for (i = 0; i < rows; i++) {
            for (j = 0; j < cols; j++) {
                cout << MatrixX[i][j] + MatrixY[i][j] << "\t";
            }
            cout << endl;
        }
    } else if (operasi == '-') {
        cout << "\nHasil Pengurangan Matrix X dan Matrix Y : " << endl;
        for (i = 0; i < rows; i++) {
            for (j = 0; j < cols; j++) {
                cout << MatrixX[i][j] - MatrixY[i][j] << "\t";
            }
            cout << endl;
        }
    } else if (operasi == 'x') {
        cout << "\nHasil Perkalian Matrix X dan Matrix Y : " << endl;
        for (i = 0; i < rows; i++) {
            for (j = 0; j < cols; j++) {
                cout << MatrixX[i][j] * MatrixY[i][j] << "\t";
            }
        cout << endl;
        }
    } else {
        cout << "Ga Bisa Dongs";
    }

    return 0;
}
```

```
Program Perhitungan Matriks
---------------------------
Jenis Jenis Operasi:
+ = Penjumlahan
- = Pengurangan
x = Perkalian
Masukan Jenis Operasi :+
Masukkan Jumlah Baris : 3
Masukkan Jumlah Kolom : 3

Matrix X :
Matrix X[0][0] : 3
Matrix X[0][1] : 3
Matrix X[0][2] : 3
Matrix X[1][0] : 3
Matrix X[1][1] : 3
Matrix X[1][2] : 3
Matrix X[2][0] : 3
Matrix X[2][1] : 3
Matrix X[2][2] : 3

Matrix Y :
Matrix Y[0][0] : 4
Matrix Y[0][1] : 4
Matrix Y[0][2] : 4
Matrix Y[1][0] : 4
Matrix Y[1][1] : 4
Matrix Y[1][2] : 4
Matrix Y[2][0] : 4
Matrix Y[2][1] : 4
Matrix Y[2][2] : 4

Hasil Penjumlahan Matrix X dan Matrix Y :
7       7       7
7       7       7
7       7       7

--------------------------------
Process exited after 32.7 seconds with return value 0
Press any key to continue . . .
```

2. Gerobaks Ayam



```cpp
#include <iostream>
#include <string>
using namespace std;

int main() {
    const int banyakJenis = 3;
    char kode[banyakJenis] = {'D', 'P', 'S'};
    string jenis[banyakJenis] = {"Dada", "Paha", "Sayap"};
    int harga[banyakJenis] = {2500, 2000, 1500};

    int jumlahPotong[100], totalHarga[100];
    string namaPotong[100];
    char pilihKode;
    int banyakPesanan;

    cout << "GEROBAK FRIED CHICKEN\n";
    cout << "--------------------\n";
    cout << "Kode   Jenis   Harga\n";
    cout << "--------------------\n";
    for (int i = 0; i < banyakJenis; ++i) {
        cout << "[" << kode[i] << "]    " << jenis[i] << "   Rp. " << harga[i] << "\n";
    }
    cout << "--------------------\n";

    cout << "\nBanyak Jenis: ";
    cin >> banyakPesanan;

    if (banyakPesanan <= 0) {
        cout << "Banyak jenis tidak boleh nol atau negatif!\n";
        return 1;
    }

    int totalSemua = 0;

    for (int i = 0; i < banyakPesanan; ++i) {
        cout << "\nJenis ke-" << (i + 1) << "\n";
        cout << "Jenis Potong [D/P/S]: ";
        cin >> pilihKode;

        bool validKode = false;
        for (int j = 0; j < banyakJenis; ++j) {
            if (toupper(pilihKode) == kode[j]) {
                namaPotong[i] = jenis[j];
                cout << "Banyak Potongan: ";
                cin >> jumlahPotong[i];
                totalHarga[i] = jumlahPotong[i] * harga[j];
                totalSemua += totalHarga[i];
                validKode = true;
                break;
            }
        }

        if (!validKode) {
            cout << "Kode tidak valid! Silakan ulangi.\n";
            --i;
        }
    }

    cout << "\n\tGEROBAK FRIED CHICKEN\n";
    cout << "-------------------------------------------------\n";
    cout << "No.  Jenis Potong   Harga Satuan   Banyak Beli   Jumlah Harga\n";
    cout << "-------------------------------------------------\n";
    for (int i = 0; i < banyakPesanan; ++i) {
        cout << (i + 1) << "    " << namaPotong[i] << "          Rp. "
             << harga[0] << "          " << jumlahPotong[i]
             << "          Rp. " << totalHarga[i] << "\n";
    }
    cout << "-------------------------------------------------\n";
    cout << "                        Jumlah Bayar  : Rp. " << totalSemua << "\n";
}
```

```
GEROBAK FRIED CHICKEN
--------------------
Kode   Jenis   Harga
--------------------
[D]    Dada   Rp. 2500
[P]    Paha   Rp. 2000
[S]    Sayap   Rp. 1500
--------------------

Banyak Jenis: 3

Jenis ke-1
Jenis Potong [D/P/S]: d
Banyak Potongan: 2

Jenis ke-2
Jenis Potong [D/P/S]: p
Banyak Potongan: 3

Jenis ke-3
Jenis Potong [D/P/S]: s
Banyak Potongan: 5

        GEROBAK FRIED CHICKEN
-------------------------------------------------
No.  Jenis Potong   Harga Satuan   Banyak Beli   Jumlah Harga
-------------------------------------------------
1    Dada          Rp. 2500          2          Rp. 5000
2    Paha          Rp. 2500          3          Rp. 6000
3    Sayap          Rp. 2500          5          Rp. 7500
-------------------------------------------------
                        Jumlah Bayar  : Rp. 18500

--------------------------------
Process exited after 28.5 seconds with return value 0
Press any key to continue . . .
```