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Kelas : KOMA

Assignment – 5

1) Rata-Rata Nilai

```cpp
#include <iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int n;
    double sum, avg;
    sum = 0;

    cout << "Menghitung Rata-Rata Nilai" << endl;

    // input n bilangan
    cout << "Ada berapa angka? "; cin >> n;

    // deklarasi array
    int array[n];
    cout << "Angka = ";
    for(int i = 0; i < n; i++) {
        // input nilai tiap n
        cin >> array[i];
        // jumlah akhir bilangan dari tiap input
        sum += array[i];
    }

    // hitung rata-rata
    avg = sum / n;

    // print rata-rata
    cout << "Rata-rata = " << avg;

    return 0;
}
```

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2) Konversi Biner

```cpp
#include <iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int num, x;
    int array[8];

    cout << "Konversi Bilangan Cacah Ke Bilangan Biner" << endl;

    // input bilangan
    cout << "Masukkan angka : ";
    cin >> num;

    // jika input bilangan negatif
    if(num > 255 || num < 0) {
        cout << "Invalid number" << endl;
    }
    else {
        // loop biner
        for(int i = 0; num > 0; i++) {
            if(num % 2 == 1) {
                array[i] = 1;
            }
            else if(num % 2 == 0) {
                array[i] = 0;
            }
            num /= 2;
            // panjang array
            x = i;
        }

        // print biner
        cout << "Biner : ";
        // loop print biner dari bilangan terakhir
        for(int i = x; i >= 0; i--) {
            cout << array[i] << " ";
        }
    }
    return 0;
}
```

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3) Interseksi Dua Array

```cpp
#include <iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int n;

    cout << "Mencari Bilangan yang Sama Dari Dua Himpunan" << endl;

    // input n bilangan
    cout << "Ada berapa angka? "; cin >> n;

    // deklarasi array
    int A[n];
    int B[n];

    // input bilangan anggota himpunan A dan B
    cout << "Himpunan A = ";
    for(int i = 0; i < n; i++) {
        cin >> A[i];
    }
    cout << "Himpunan B = ";
    for(int i = 0; i < n; i++) {
        cin >> B[i];
    }

    // print anggota himpunan A
    cout << "A = [ ";
    for(int i = 0; i < n; i++) {
        cout << A[i] << " ";
    }
    cout << "]" << endl;

    // print anggota himpunan B
    cout << "B = [ ";
    for(int i = 0; i < n; i++) {
        cout << B[i] << " ";
    }
    cout << "]" << endl;

    // cari interseksi
```

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```
    cout << "Interseksi: ";
    for(int x = 0; x <= n; x++) {
        for(int y = 0; y < n; y++) {
            if (A[x] == B[y]){
                // print interseksi
                cout << A[x] << " ";
                // hapus duplikat
                if (A[x] == B[y]) {
                    break;
                }
            }
        }
    }

    return 0;
}
```

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4) Perkalian Dua Matriks

```cpp
#include <iostream>

using namespace std;

int main() {
    // deklarasi array matriks
    int array1[2][2];
    int array2[2][2];
    int arrayX[2][2];

    // input anggota matriks 1
    cout << "Masukkan elemen matriks 1: " << endl;
    for(int i = 0; i <= 1; i++){
        for(int j = 0; j <= 1; j++){
            cout << "Masukkan elemen a" << i + 1 << j + 1 << ": ";
            cin >> array1[i][j];
        }
    }

    cout << endl;

    // input anggota matriks 2
    cout << "Masukkan elemen matriks 2: " << endl;
    for(int k = 0; k <= 1; k++){
        for(int l = 0; l <= 1; l++){
            cout << "Masukkan elemen b" << k + 1 << l + 1 << ": ";
            cin >> array2[k][l];
        }
    }

    cout << endl;

    // print matriks 1
    cout << "Matriks 1: " << endl;
    for(int i = 0; i <= 1; i++){
        for(int j = 0; j <= 1; j++){
            cout <<  array1[i][j] << " ";
        }
        cout << endl;
    }

    cout << endl;
```

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```
    // print matriks 2
    cout << "Matriks 2: " << endl;
    for(int k = 0; k <= 1; k++){
        for(int l = 0; l <= 1; l++){
            cout <<  array2[k][l] << " ";
        }
        cout << endl;
    }

    // rumus perkalian dua matriks
    for(int m = 0; m <= 1; m++){
        for(int n = 0; n <= 1; n++){
            arrayX[m][n] = array1[m][0] * array2[0][n] + array1[m][1]
 * array2[1][n];
        }
    }

    cout << endl;

    // print hasil perkalian dua matriks
    cout << "Output Matriks: " << endl;
    for(int m = 0; m <= 1; m++){
        for(int n = 0; n <= 1; n++){
            cout <<  arrayX[m][n] << " ";
        }
        cout << endl;
    }

    return 0;
}
```

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5) Bilangan Bulat Positif Terkecil

```cpp
#include <iostream>

using namespace std;

int main() {
    // deklarasi variabel
    int n;
    int x = 1;
    int m = 0;

    // input jumlah anggota himpunan
    cout << "Ada berapa angka? "; cin >> n;

    // deklarasi array himpunan
    int array[n];

    // input anggota himpunan
    cout << "Masukkan angka: ";
    for(int i = 0; i < n; i++){
        cin >> array[i];
    }

    // mencari bilangan positif terkecil yang tidak ada di himpunan
    for(int i = 0; i < n; i++){
        for(int j = n; j > 0; j--){
            while(x == array[i] || x == array[j]) {
                x++;
            }
        }
    }

    // jika semua input bilangan negatif
    for(int i = 0; i < n; i++){
        if(array[i] < 0) {
            m++;
            if(m == n) {
                x = 1;
            }
        }
    }

    // print bilangan positif terkecil
```

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```
    cout << x;

    return 0;
}
```

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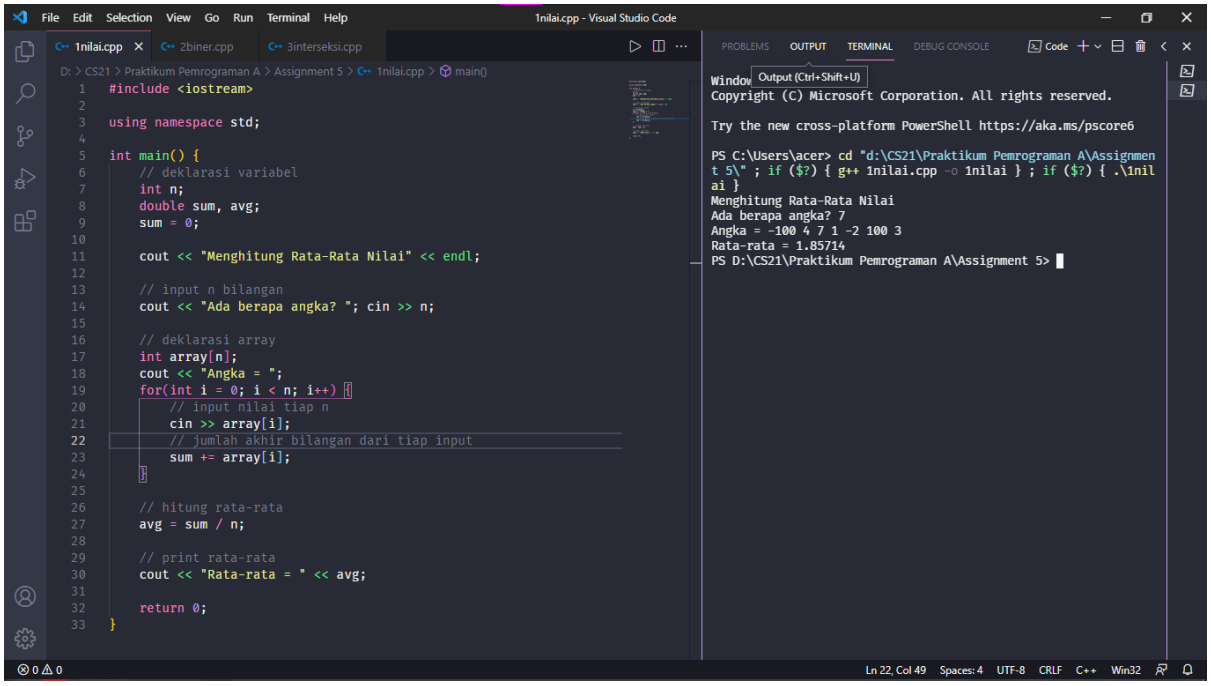
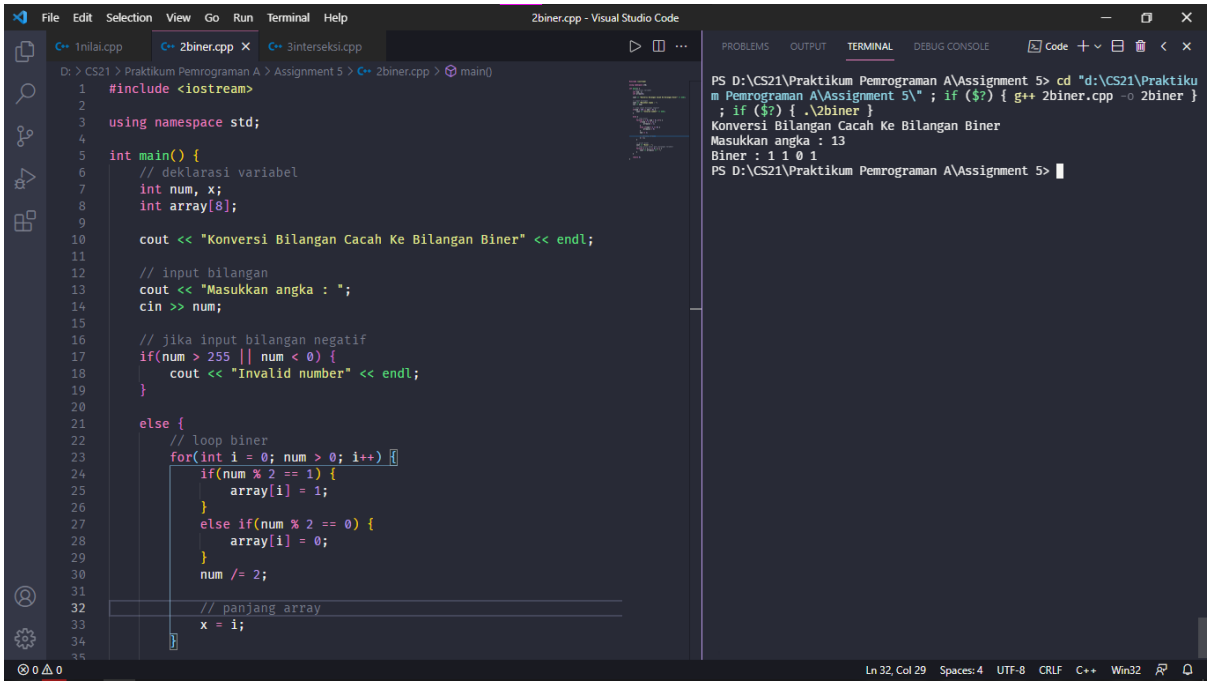
Screenshot

1) Rata-Rata Nilai



2) Konversi Biner



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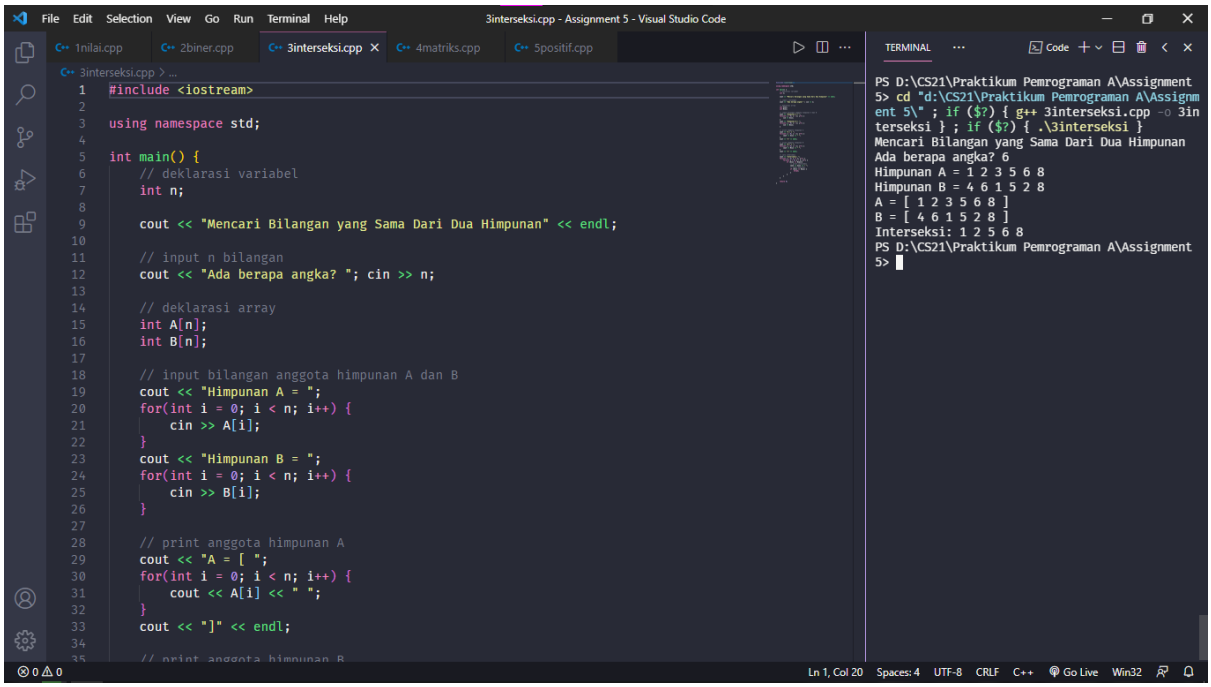
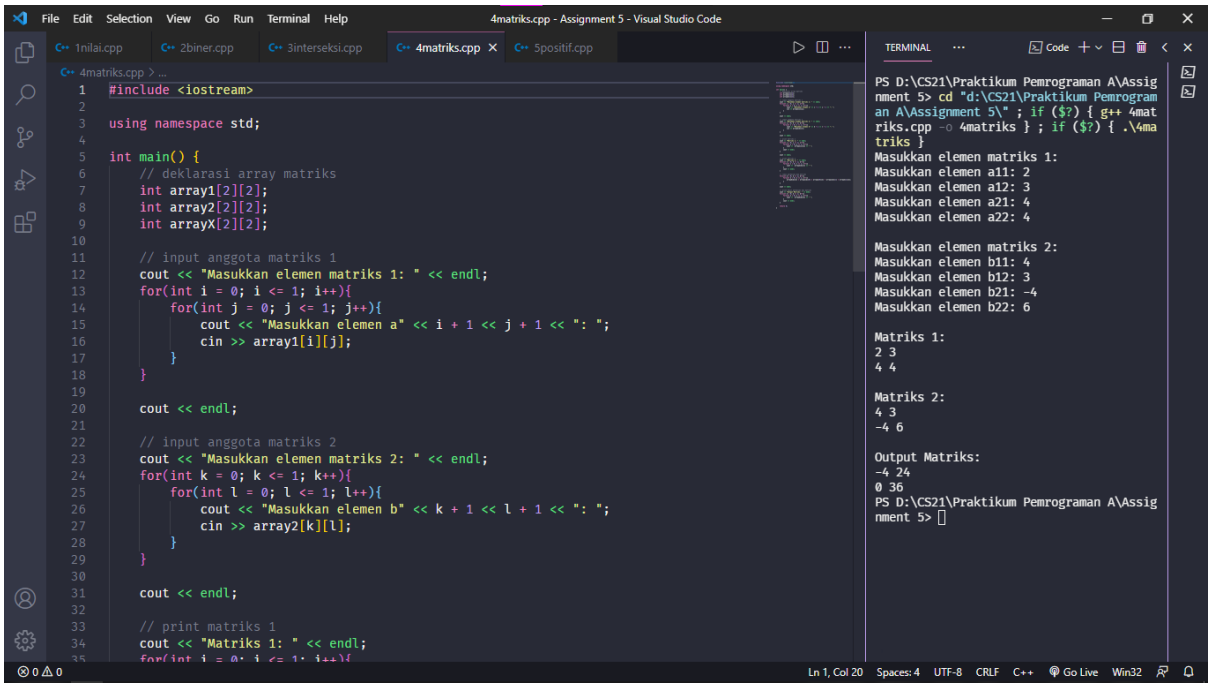
3) Interseksi Dua Array



4) Perkalian Dua Matriks



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5) Bilangan Bulat Positif Terkecil