

Tugas Individu

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Prodi : Sistem Informasi

Angkatan 3

Urutan Tugas

- A. Program Looping dengan Increment dan Decrement
- B. Program Looping Mencetak Angka Ganjil Genap
- C. Tugas Nested
- D. Percabangan (Contoh Kasus IF)

A. Program Looping dengan Increment dan Decrement

1. Perulangan For

a. Increment

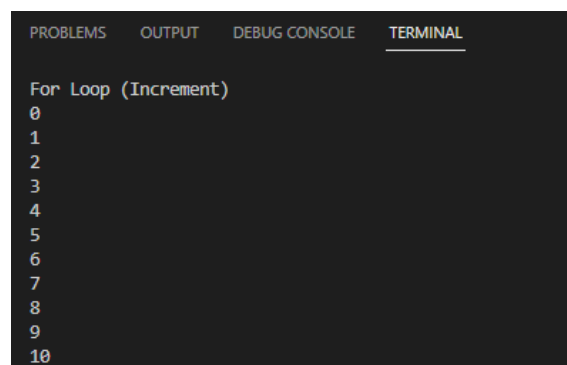
Kode Program

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

int main ()
{
    cout << "For Loop (Increment) \n";
    for( int i = 0; i<=10; i++)
    {
        cout << i << endl;
    }

    return 0;
}
```

OUTPUT



The screenshot shows a terminal window with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL. The TERMINAL tab is active, displaying the output of the program: "For Loop (Increment)" followed by numbers 0 through 10 on separate lines.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

For Loop (Increment)
0
1
2
3
4
5
6
7
8
9
10
```

b. Decrement

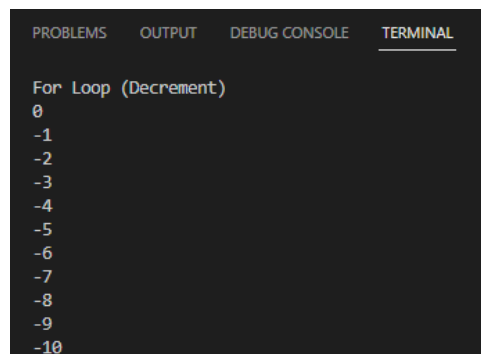
Kode Program

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

int main ()
{
    cout << "\nFor Loop (Decrement)\n";
    for (int i = 0; i >= -10 ; i--)
    {
        cout << i << endl;
    }

    return 0;
}
```

OUTPUT



The screenshot shows a terminal window with a dark background. At the top, there are four tabs: 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is selected and underlined. The output text in the terminal is as follows:

```
For Loop (Decrement)
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
```

2. Perulangan While

a. Increment

Kode Program

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

int main ()
{
    cout << "While Loop (Increment)\n";

    int i = 0;

    while (i <= 10)
    {
        cout << i << endl;
        i++;
    }
}
```

```
    return 0;
}
```

OUTPUT



The screenshot shows a terminal window with a dark background. At the top, there are four tabs: 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is selected and underlined. Below the tabs, the text 'While Loop (Increment)' is displayed. Underneath, the numbers 0 through 10 are listed vertically on separate lines.

```
While Loop (Increment)
0
1
2
3
4
5
6
7
8
9
10
```

b. Decrement

Kode Program

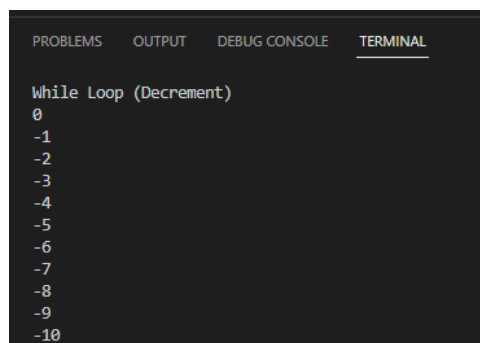
```
#include <iostream>
using namespace std;

int main ()
{
    cout << "\nWhile Loop (Decrement)\n";

    int i = 0;
    while (i >= -10)
    {
        cout << i << endl;
        i--;
    }

    return 0;
}
```

OUTPUT



The screenshot shows a terminal window with a dark background. At the top, there are four tabs: 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is selected and underlined. Below the tabs, the text 'While Loop (Decrement)' is displayed. Underneath, the numbers 0, -1, -2, -3, -4, -5, -6, -7, -8, -9, and -10 are listed vertically on separate lines.

```
While Loop (Decrement)
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
```

3. Perulangan Do While

a. Increment

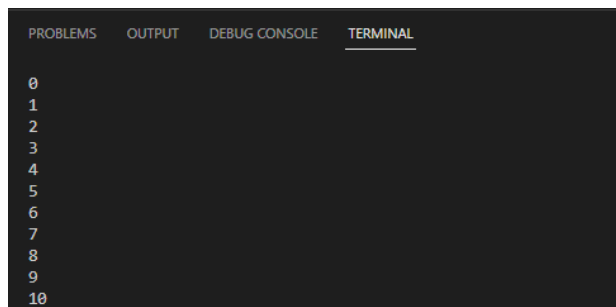
Kode Program

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

int main ()
{
    int i = 0;
    do{
        cout << i << endl;
        i++;
    }while (i <= 10);

    return 0;
}
```

OUTPUT



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
0
1
2
3
4
5
6
7
8
9
10
```

b. Decrement

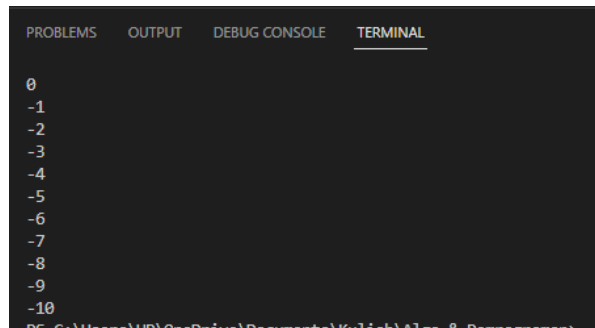
Kode Program

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

int main ()
{
    int i = 0;
    do{
        cout << i << endl;
        i--;
    }while (i >= -10);

    return 0;
}
```

OUTPUT



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
```

B. Program Looping Mencetak Angka Ganjil Genap

a. Ganjil

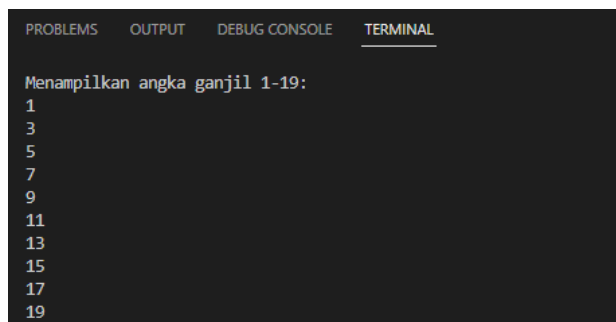
Kode Program - For

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

int main ()
{
    cout << "Menampilkan angka ganjil 1-19: \n";
    for( int i = 1; i <= 19; i += 2)
    {
        cout << i << endl;
    }

    return 0;
}
```

OUTPUT – For



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Menampilkan angka ganjil 1-19:
1
3
5
7
9
11
13
15
17
19
```

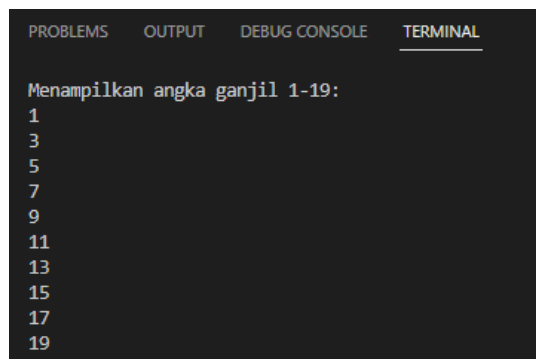
Kode Program – While

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

int main ()
{
    cout << "Menampilkan angka ganjil 1-19: \n";
    int i = 1;
    while (i <= 20)
    {
        cout << i << endl;
        i += 2;
    }

    return 0;
}
```

OUTPUT – While



The screenshot shows a terminal window with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL. The TERMINAL tab is active, displaying the output of the program: "Menampilkan angka ganjil 1-19:" followed by a list of odd numbers from 1 to 19, each on a new line.

```
Menampilkan angka ganjil 1-19:
1
3
5
7
9
11
13
15
17
19
```

Kode Program – Do While

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

int main ()
{
    cout << "Menampilkan angka ganjil 1-19: \n";
    int i = 1;
    do{
        cout << i << endl;
        i += 2;
    }while (i <= 19);

    return 0;
}
```

OUTPUT – Do While

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Menampilkan angka ganjil 1-19:
1
3
5
7
9
11
13
15
17
19
```

b. Genap

Kode Program – For

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

int main ()
{
    cout << "Menampilkan angka genap 2-20: \n";
    for( int i = 2; i <= 20; i += 2)
    {
        cout << i << endl;
    }

    return 0;
}
```

OUTPUT – For

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Menampilkan angka genap 2-20:
2
4
6
8
10
12
14
16
18
20
```


Kode Program – While

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

int main ()
{
    cout << "Menampilkan angka genap 2-20: \n";
    int i = 2;
    while (i <= 20)
    {
        cout << i << endl;
        i += 2;
    }

    return 0;
}
```

OUTPUT – While



The screenshot shows a terminal window with a dark background and light-colored text. At the top, there are four tabs: 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', and 'TERMINAL'. The 'TERMINAL' tab is selected and underlined. Below the tabs, the output of the program is displayed: 'Menampilkan angka genap 2-20:' followed by a list of even numbers from 2 to 20, each on a new line.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Menampilkan angka genap 2-20:
2
4
6
8
10
12
14
16
18
20
```

Kode Program – Do While

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

int main ()
{
    cout << "Menampilkan angka genap 2-20: \n";
    int i = 2;
    do{
        cout << i << endl;
        i += 2;
    }while (i <= 20);

    return 0;
}
```

OUTPUT – Do While

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Menampilkan angka genap 2-20:
2
4
6
8
10
12
14
16
18
20
```

C. Tugas Nested

1. Pengulangan For

a. Pola 1

Kode Program

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

/* Tugas nested dengan batas nilai >=5 */

int main()
{
    int i, j, n=15;

    cout << "For Loop Pola 1\n";

    for (int i = 5; i <= n; i++)
    {
        for (int j = 5; j <= i; j++)
        {
            cout << j << " ";
        }
        cout << endl;
    }

    return 0;
}
```

OUTPUT

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

For Loop Pola 1
5
5 6
5 6 7
5 6 7 8
5 6 7 8 9
5 6 7 8 9 10
5 6 7 8 9 10 11
5 6 7 8 9 10 11 12
5 6 7 8 9 10 11 12 13
5 6 7 8 9 10 11 12 13 14
5 6 7 8 9 10 11 12 13 14 15
```

b. Pola 2

Kode Program

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

/* Tugas nested dengan batas nilai >=5 */

int main()
{
    int n=10, k=5 ;

    cout << "For Loop Pola 2\n";
    for (int i = 0; i < n; i++)
    {
        for (int j = 0; j < i+1; j++)
        {
            cout << k++ << " " ;
        }
        cout << endl;
    }

    return 0;
}
```

OUTPUT

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

For Loop Pola 2
5
6 7
8 9 10
11 12 13 14
15 16 17 18 19
20 21 22 23 24 25
26 27 28 29 30 31 32
33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49
50 51 52 53 54 55 56 57 58 59
D5: C:\Users\YIP\OneDrive\Documents\Kuliah\Algo...
```

c. Pola 3

Kode Program

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

/* Tugas nested dengan batas nilai >=5 */

int main()
{
    int n=15, m=5 ;

    cout << "\nFor Loop Pola 3\n";

    for (int i = n; i >= 5; i--)
    {
        for (int j = 5; j <= i; j++)
        {
            m++;
            cout << j << " ";
        }
        cout << endl;
    }

    return 0;
}
```

OUTPUT

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
5 6 7 8 9 10 11 12 13 14 15
5 6 7 8 9 10 11 12 13 14
5 6 7 8 9 10 11 12 13
5 6 7 8 9 10 11 12
5 6 7 8 9 10 11
5 6 7 8 9 10
5 6 7 8 9
5 6 7 8
5 6 7
5 6
5
D:\C++\MyCode\CPP\Oop\Oop\Documents\Koding\01\Task 2
```

2. Pengulangan While

a. Pola 1

Kode Program

```
#include <iostream>
using namespace std;
int main ()
{
    int n;
    cout << "Masukkan tinggi segitiga (>=10): ";
    cin >> n;

    cout << "\nWhile Loop Pola 3\n";

    int i = 5;
    while (i <= n)
    {
        int j = 5;
        while (j <= i)
        {
            cout << j << " ";
            j++;
        }
        cout << endl;
        i++;
    }

    return 0;
}
```

OUTPUT

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

While Loop Pola 3
5
5 6
5 6 7
5 6 7 8
5 6 7 8 9
5 6 7 8 9 10
5 6 7 8 9 10 11
5 6 7 8 9 10 11 12
5 6 7 8 9 10 11 12 13
5 6 7 8 9 10 11 12 13 14
5 6 7 8 9 10 11 12 13 14 15
```

b. Pola 2

Kode Program

```
#include <iostream>
using namespace std;
int main ()
{
    int n;
    cout << "Masukkan tinggi segitiga (>=10): ";
    cin >> n;

    cout << "\nWhile Loop Pola 3\n";

    int i = 1, k = 5;
    while (i < n)
    {
        int j = 1;
        while (j < i+1)
        {
            j++;
            cout << k << " ";
            k++;
        }
        cout << endl;
        i++;
    }

    return 0;
}
```

OUTPUT

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

While Loop Pola 3
5
6 7
8 9 10
11 12 13 14
15 16 17 18 19
20 21 22 23 24 25
26 27 28 29 30 31 32
33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49
50 51 52 53 54 55 56 57 58 59
60 61 62 63 64 65 66 67 68 69 70
```

c. Pola 3

Kode Program

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

int main ()
{
    int n;
    cout << "Masukkan tinggi segitiga: ";
    cin >> n;

    cout << "\nWhile Loop Pola 3\n";

    int i = n, k = 5;
    while (i >= 5)
    {
        int j = 5;
        while (j <= i)
        {
            k++;
            cout << j << " ";
            j++;
        }
        cout << endl;
        i--;
    }

    return 0;
}
```

OUTPUT

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

While Loop Pola 3
5 6 7 8 9 10 11 12 13 14 15
5 6 7 8 9 10 11 12 13 14
5 6 7 8 9 10 11 12 13
5 6 7 8 9 10 11 12
5 6 7 8 9 10 11
5 6 7 8 9 10
5 6 7 8 9
5 6 7 8
5 6 7
5 6
5
```

D. Percabangan (Contoh Kasus IF)

Kode Program

```
#include <iostream>
using namespace std;
int main()
{
    char fakultas;
    int prodi;

    cout << "Untuk memilih fakultas FTIK masukkan huruf 'A' " << endl;
    cout << "Untuk memilih fakultas Febira masukkan huruf 'B' " << endl;
    cout << "Masukkan kode fakultas (A / B): ";
    cin >> fakultas;

    cout << "=====" << endl;
    << endl;

    cout << "Fakultas ";
    if (fakultas == 'A')
    {
        cout << "FTIK \n"
            << endl;
        cout << "Pilih prodi: \n";
        cout << "Kode prodi Informatika          : 01" << endl;
        cout << "Kode prodi Sistem Informasi          : 02" << endl;
        cout << "Kode prodi Administrasi Kesehatan : 03\n" << endl;
        cout << "Masukkan kode prodi: ";
        cin >> prodi;
        cout << endl;
        if (prodi == 01)
        {
```



```

        cout << "Fakultas: FTIK \nprodi: Informatika" << endl;
    }
    else if (prodi == 02)
    {
        cout << "Fakultas: FTIK \nprodi: Sistem Informasi" << endl;
    }
    else if (prodi == 03)
    {
        cout << "Fakultas: FTIK \nprodi: Administrasi Kesehatan" << endl;
    }
    else{
        cout << "Pilihan salah, silahkan ulangi" << endl;
    }
}

else if (fakultas == 'B')
{
    cout << "Febira \n"
        << endl;
    cout << "Pilih prodi: \n";
    cout << "Kode prodi Hukum      : 01" << endl;
    cout << "Kode prodi Akuntansi : 02" << endl;
    cout << "Kode prodi Manajemen : 03\n" << endl;
    cout << "Masukkan kode prodi: ";
    cin >> prodi;
    cout << endl;
    if (prodi == 01)
    {
        cout << "Fakultas: Febira \nprodi: Hukum" << endl;
    }
    else if (prodi == 02)
    {
        cout << "Fakultas: Febira \nprodi: Akuntansi" << endl;
    }
    else if (prodi == 03)
    {
        cout << "Fakultas: Febira \nprodi: Manajemen" << endl;
    }
    else{
        cout << "Pilihan salah, silahkan ulangi" << endl;
    }
}
else{
    cout << "Pilihan salah, silahkan ulangi" << endl;
}

return 0;
}

```

a. Fakultas FTIK

Case: Memilih huruf 'A' akan menghasilkan output "FTIK" dengan kode prodi "01" untuk Informatika, "02" untuk Sistem Informasi, dan "03" untuk Administrasi Kesehatan.

OUTPUT – User menginputkan huruf "A/B"

```
Untuk memilih fakultas FTIK masukkan huruf 'A'  
Untuk memilih fakultas Febira masukkan huruf 'B'  
Masukkan kode fakultas (A / B): A
```

OUTPUT – User menginputkan kode prodi "01/02/03"

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  
  
Untuk memilih fakultas Febira masukkan huruf 'B'  
Masukkan kode fakultas (A / B): A  
=====
```

Fakultas FTIK

Pilih prodi:

Kode prodi Informatika	: 01
Kode prodi Sistem Informasi	: 02
Kode prodi Administrasi Kesehatan	: 03

Masukkan kode prodi: 01

OUTPUT Akhir

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  
  
Fakultas FTIK  
  
Pilih prodi:  
Kode prodi Informatika      : 01  
Kode prodi Sistem Informasi : 02  
Kode prodi Administrasi Kesehatan : 03  
  
Masukkan kode prodi: 01  
  
Fakultas: FTIK  
prodi: Informatika  
C:\Users\YUDY\OneDrive\Documents\Kuliah\Algo & Pemrograman
```

b. Fakultas Febira

OUTPUT - User menginputkan huruf "A/B"

```
Untuk memilih fakultas FTIK masukkan huruf 'A'  
Untuk memilih fakultas Febira masukkan huruf 'B'  
Masukkan kode fakultas (A / B): B
```

OUTPUT - – User menginputkan kode prodi “01/02/03”

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Untuk memilih fakultas Febira masukkan huruf 'B'
Masukkan kode fakultas (A / B): B
=====

Fakultas Febira

Pilih prodi:
Kode prodi Hukum      : 01
Kode prodi Akuntansi  : 02
Kode prodi Manajemen  : 03

Masukkan kode prodi: 03
```

OUTPUT Akhir

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Fakultas Febira

Pilih prodi:
Kode prodi Hukum      : 01
Kode prodi Akuntansi  : 02
Kode prodi Manajemen  : 03

Masukkan kode prodi: 03

Fakultas: Febira
prodi: Manajemen
=====
```