Prokom-1:

Programming, Algorithm, Flowchart, Pseudocode, C language

Overview

- C language
- Hello world!
- Decision Tree
- Variable
- Statements
- Loop

Review

- Programming
- Flowchart
- Pseudocode
- Binary
- Compiler
- C Vs C++

Algorithm

- Algoritma adalah **langkah-langkah logis** penyelesaian suatu masalah
- Input **>>** ALGORITMA **>>** output
- Algoritma bisa berupa:
  - Flowchart
  - Pseudo code

C Vs C++

C	C++
Structural/Procedural	Object Oriented
Standard Library (stdio)	iostream
Simplicity	Complexity
User defined, struct	Template, Class, etc

Syntax

```
1 #include <stdio.h>
2 Int main (void)
3 {
4     printf(“hello world”);
5 }
```

Hello C!

```
1 #include <stdio.h>
2 Int main (void)
3 {
4     printf(“hello world\n”);
5 }
```

Hello, Bagus!

```
1 #include <stdio.h>
2 Int main (void)
3 {
4     char nama[10] = "Bagus";
5     printf("hello, %s\n", nama);
6 }
```

Hello, Bagus!

```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     char nama[10];
6     printf("Masukkan nama anda: ");
7     scanf("%s", nama);
8     printf("hello, %s\n", nama);
9 }
```

How it works

Source Code

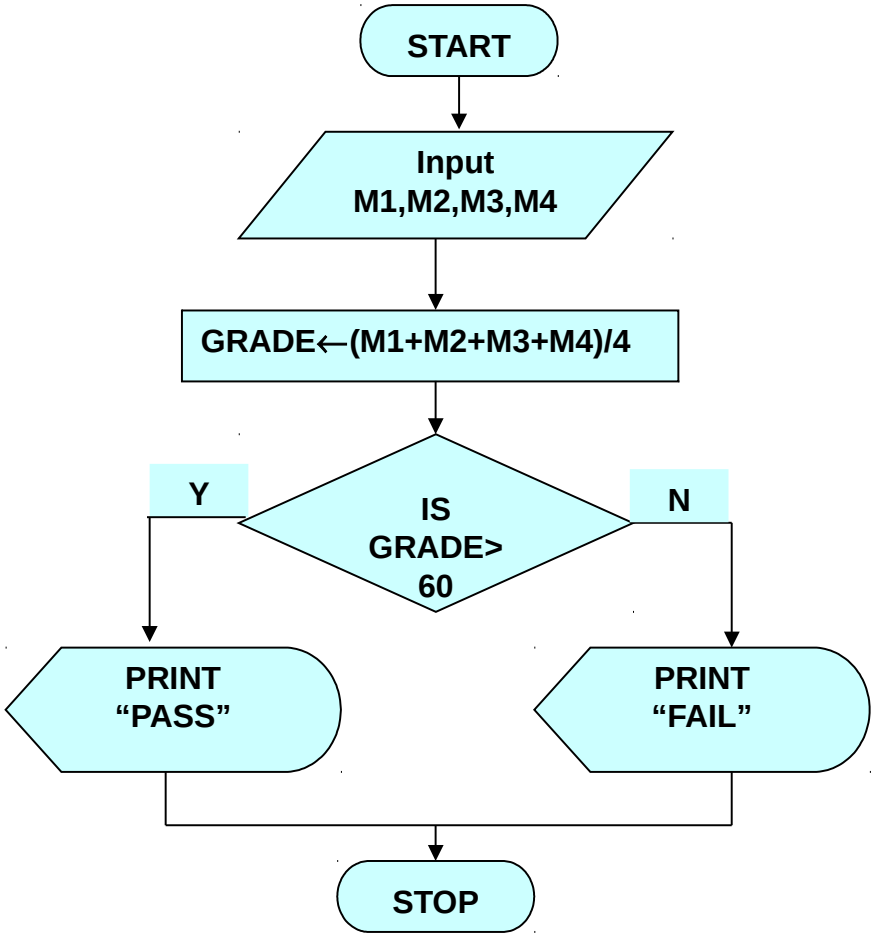
Compiler >> Compile/build

Objec Code >> Run

Decision Tree: IF .. ELSE

- Jika nila kurang dari 60
  cetak “anda lolos”
- Sebaliknya
  anda “tidak lolos”

```
if (x > 60)
    printf(“Anda Lolos”);
else
    printf(“Anda tidak lolos”);
```



IF ... ELSE IF ... ELSE

```
if (n > 0)
        printf("Anda memasukkan bilangan positif!");
else if (n == 0)
        printf("Anda memasukkan bilangan 0");
else
        printf("Anda memasukkan bilangan negatif!");
```

Statement

```
int x = 12;
int x;
if ( x > y )
printf("hello, %s\n", s);
```

function

Variable

```
// declaring a variable
int counter = 0;
int counter2;

// resetting a variable
counter = 4;
counter2 = 5;
```

Variable

```
int counter = 0;

while (true)
{
    printf("%d\n", counter);
    counter++;
}
```

Loop

- Digunakan untuk kejadian berulang
- Untuk i=0, i kurang dari 10, i=i++

  cetak *
- I++ **>>** i = i+1

- Output :

  ****

For Loops


```
for ( i = 1; i<=10; i++)
    // eksekusi
```

For

```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     for (int i = 0; i <= 10; i++)
6         printf("*");
7 }
```

For [1]

```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     for (int i = 0; i <= 10; i++)
6         printf("*");
7         printf("\n");
8 }
```

For [2]

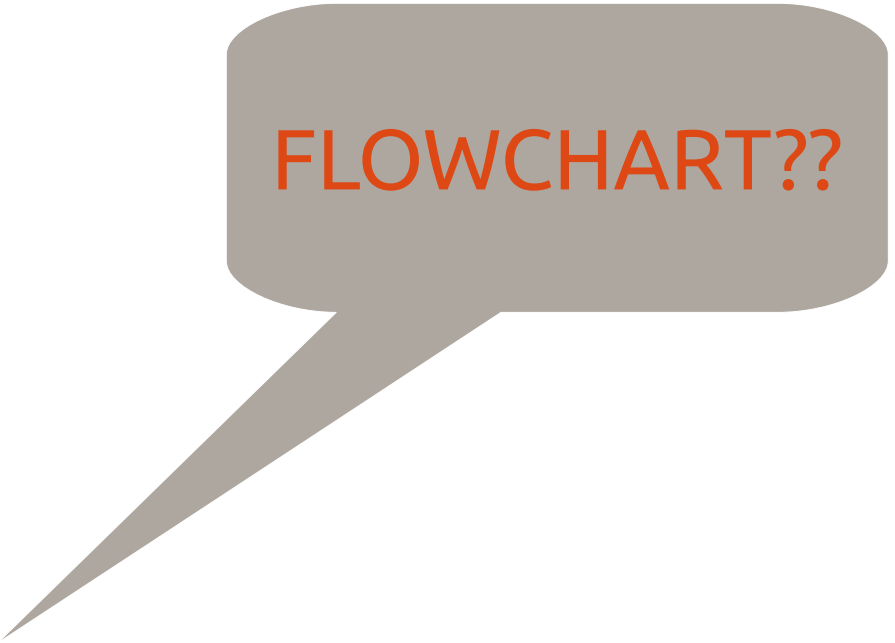
```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     for (int i = 0; i <= 10; i++)
6         printf("*\n");
7 }
```

For [3]

```
1 #include <stdio.h>
2 int main(void) {
3 int i, j;
4 for (i=1; i<=10; i++)  {
5         for (j=1;j<=i; j++)
6             printf("*");
7          printf("\n");
8         }
9  }
```

Output

```
1    *
2    **
3    ***
4    ****
5    *****
6    ******
7    *******
8    ********
9    *********
10   **********
```



Buatlah

- Flowchart untuk membentuk pola berikut.
- Input = N bilangan bulat
- Output

N =1	N = 3
*	* ** ***
N = 5	**N = 7**
* ** *** **** *****	* ** *** **** ***** ****** *******

Selamat Belajar

Work Hard

Work Smart

Learning by Doing

One day, One Code

Keep coding!