PEMROGRAMAN LANJUT

PERTEMUAN 1

REVIEW ALGORITMA

ALGORITMA

- DEFINISI

  - Langkah-langkah untuk menyelesaikan permasalahan yang berhubungan dengan komputer

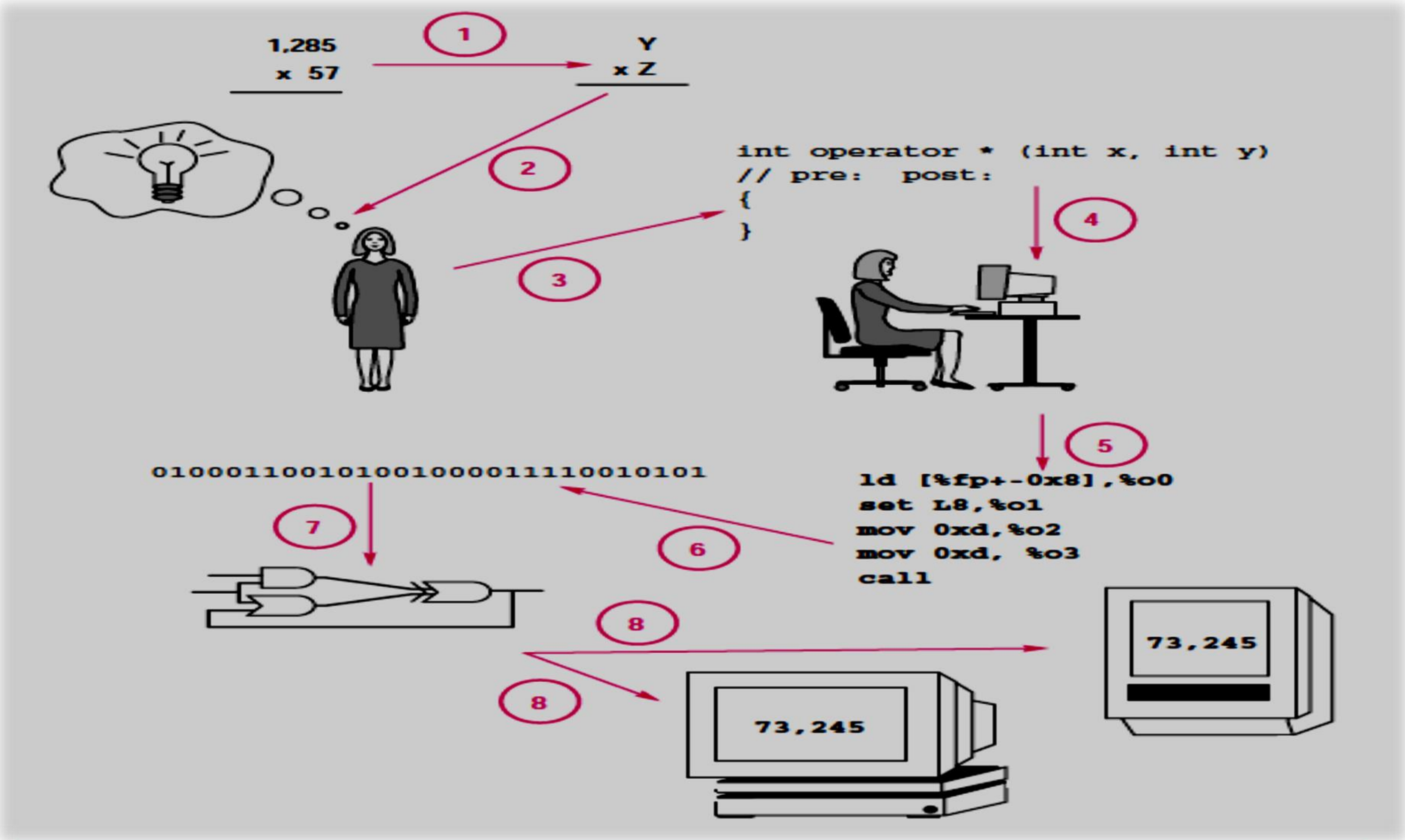
- NOTASI ALGORITMA

  - Deskriptif

  - Flowchart

  - Pseudocode

dari MASALAH ke PROGRAM



```
int operator * (int x, int y)
// pre:  post:
{
}
```

```
ld [%fp+-0x8],%o0
set L8,%o1
mov 0xd,%o2
mov 0xd, %o3
call
```

```
010001100101001000011110010101
```

PROGRAM SEDERHANA (Contoh 1)

Output

```
Saya mahasiswa S1 Mekatronika UTM
Nama saya : Sammy Simorangkir
```

Program ??

PROGRAM SEDERHANA (Contoh 2)

Output

```
Saya mahasiswa S1 Mekatronika UTM
Nama saya : Sammy Simorangkir
NIM saya : 00134
```

Program ??

PROGRAM SEDERHANA (Contoh 3)

Output

Keliling lingkaran :
Luas lingkaran :

Program ??

PROGRAM SEDERHANA

Program 1.1

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

int main()
{
cout << "Hello class :" << endl;
cout << “This is my first day” ;
}
```

OUTPUT

```
Hello class :
This is my first day
```

Program 1.1 menggunakan fungsi

Program 1.2

```
#include <iostream>
using namespace std;
//fungsi hello
void Hello()
{
cout << "Hello class" << endl;
}

void GoodBye()
{
cout << “Bye" << endl;
}

//fungsi main
int main()
{
Hello();
GoodBye();
}
```

Program 1.3

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

int main()
{
cout << "Hello class.. ready for lesson?" << endl;
return 0;
}
```

OUTPUT

```
Hello class.. ready for lesson?
```

Program 1.4

```
#include <iostream>
using namespace std;
int main()
{
cout << "Hello class.. “ << endl << “ready for lesson?" << endl;
return 0;
}
```

- Output?

Program 1.5

```
#include <iostream>
using namespace std;
int main()
{
cout << "Hello class.. “ << endl << “ready for lesson " <<  1+1 << “ ?”  << endl;
return 0;
}
```

- Output?

Program 1.6

```
#include <iostream>
using namespace std;
int main()
{
cout << “Jumlah mahasiswa lesson “<< 1+1 << “adalah " << 15 << “ orang”  << endl;
return 0;
}
```

- Output ?

FUNGSI/SUBRUTIN

Program 1.7

```
#include <iostream>
using namespace std;
void Head()
{
cout << "   | | | | | | | | | | | | | | | | " << endl;
cout << “   |                             | " << endl;
cout << “   |       o              o      | "<<endl;
cout << " _|                              |_ " << endl;
cout << "|_                               _|" << endl;
cout << “   |      |_______|      | " << endl;
cout << "   |                             | " << endl;
}
int main()
{
Head();
return 0;
}
```

OUTPUT

```
  ||||||||||||||||
  |              |
  |    o     o   |
 _|              |_
 |_             _|
   |   |_______|  |
   |              |
```

Program 1.8

```
#include <iostream>
using namespace std;
void PartedHair()
{
cout << " |||||||///////// " << endl;
}
void Hair()
// prints a "straight-up" or "frightened" scalp
{
cout << " |||||||||||||||| " << endl;
}
void Sides()
// prints sides of a head – other functions should use distance
// between sides of head here as guide in creating head parts (e.g., eyes)
{
cout << " | | " << endl;
}
void Eyes()
// prints eyes of a head (corresponding to distance in Sides)
{
cout << " | o o | "<<endl;
}
void Ears()
void Smile()
// prints smile (corresponding to distance in Sides)
{
cout << " | |_______| | " << endl;
}
int main()
{
Hair();
Sides();
Eyes();
Ears();
Smile();
Sides();
return 0;
}
```

FUNGSI dengan PARAMETER

Program 1.9

```
#include <iostream>
using namespace std;
void Sing()
{
cout << "Happy birthday to you" << endl;
cout << "Happy birthday to you" << endl;
cout << "Happy birthday dear " << endl;
cout << "Happy birthday to you" << endl;
cout << endl;
cout << endl;
}

void Song()
{
cout << “coba fungsi” ;
}

int main()
{
Sing();
```

Program 1.10

```
#include <iostream>
using namespace std;
#include <string>
void Sing(string person)
{
cout << "Happy birthday to you" << endl;
cout << "Happy birthday to you" << endl;
cout << "Happy birthday dear " << person << endl;
cout << "Happy birthday to you" << endl;
cout << endl;
}

void Song(string lagu)
{
cout << “Jenis “ << lagu << endl;
}

int main()
{
Sing("Grace"); Sing("Alan"); Sing("John"); Sing("Ada");Sing("Blaise");
Song(“dangdut”); Song(“Rock”);
}
```

Program 1.11

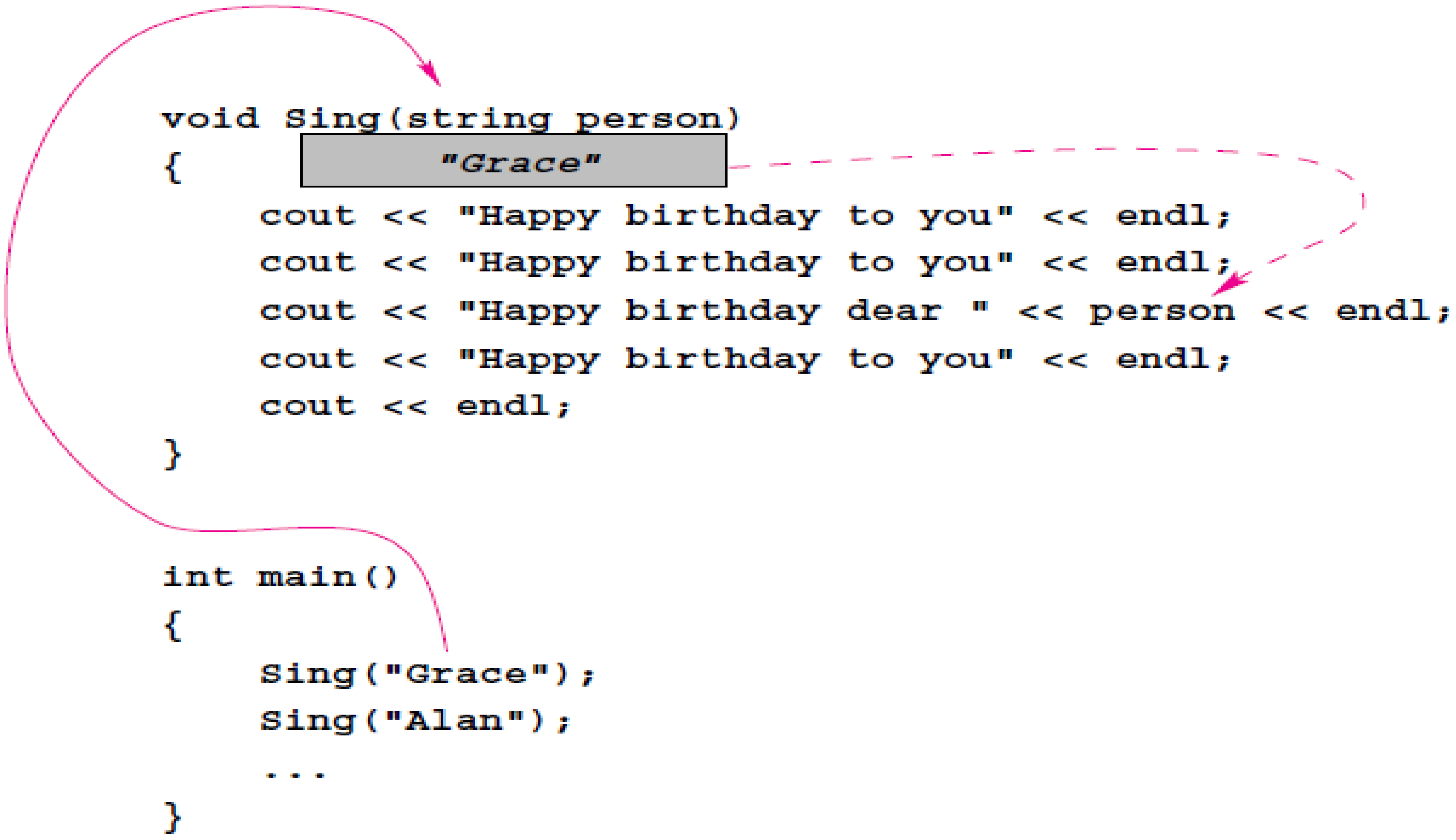
```
#include <iostream>
using namespace std;
#include <string>
void kuadrat(int x)
{
int hasil_kuadrat;
hasil_kuadrat = x*x;
cout << “Hasil kuadrat “ << hasil_kuadrat << endl;
}

int main()
{
kuadrat(5);
kuadrat(4);
kuadrat(1000);
}
```

OUTPUT

```
Hasil kuadrat 25
Hasil kuadrat 16
Hasil kuadrat 1000000
```

PARSING PARAMETER



```
void Sing(string person)
{
     cout << "Happy birthday to you" << endl;
     cout << "Happy birthday to you" << endl;
     cout << "Happy birthday dear " << person << endl;
     cout << "Happy birthday to you" << endl;
     cout << endl;
}

int main()
{
     Sing("Grace");
     Sing("Alan");
     ...
}
```

OUTPUT

```
Old MacDonald had a farm, Ee-igh, Ee-igh, oh!
And on his farm he had a cow, Ee-igh, Ee-igh, oh!
With a moo moo here
And a moo moo there
Here a moo, there a moo, everywhere a moo moo
Old MacDonald had a farm, Ee-igh, Ee-igh, oh!

Old MacDonald had a farm, Ee-igh, Ee-igh, oh!
And on his farm he had a pig, Ee-igh, Ee-igh, oh!
With a oink oink here
And a oink oink there
Here a oink, there a oink, everywhere a oink oink
Old MacDonald had a farm, Ee-igh, Ee-igh, oh!
```

HadA(“pig”)

Program 1.11

```
#include <iostream>
#include <string>
using namespace std;
// fungsi dengan lebih dari 1 parameter
void EiEio()
{
cout << "Ee-igh, Ee-igh, oh!" << endl;
}
void Refrain()
{
cout << "Old MacDonald had a farm, ";
EiEio();
}
void HadA(string animal)
{
cout << "And on his farm he had a " << animal << ", ";
EiEio();
}
```

Lanjutan... Program 1.11

```
void WithA(string noise)
// the principal part of a verse
{
cout << "With a " << noise << " " << noise << " here" << endl;
cout << "And a " << noise << " " << noise << " there" << endl;
cout << "Here a " << noise << ", “
<< "there a " << noise << ", "
<< " everywhere a " << noise << " " << noise << endl;
}
void Verse(string animal, string noise)
{
Refrain();
HadA(animal);
WithA(noise);
Refrain();
}
int main()
{
Verse("cow","moo");
cout << endl;
Verse("pig","oink");
return 0;
}
```

TUGAS 1.1

OUTPUT

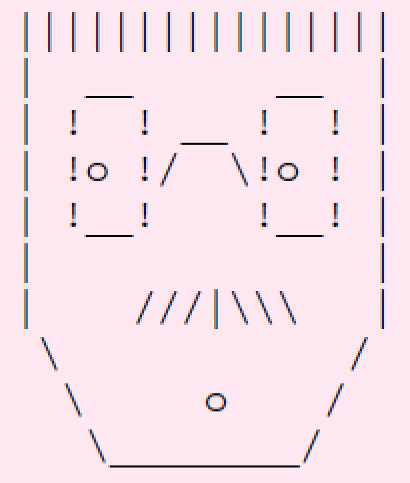
```
And on his farm he had a cluck, Ee-igh, Ee-igh, oh!
With a hen hen here
And a hen hen there
Here a hen, there a hen, everywhere a hen hen
```

TUGAS 1.2

OUTPUT
Hi Fred Things are happening inside this computer

TUGAS 1.3

OUTPUT



```
||||||||||||||||
|  __      __  |
| !  ! __ !  ! |
| !o !/  \!o ! |
| !__!    !__! |
|              |
|    ///|\\\   |
 \            /
  \     o    /
   \________/
```

KESALAHAN PROGRAM

- SYNTAX
- SEMANTIC
- LOGIC