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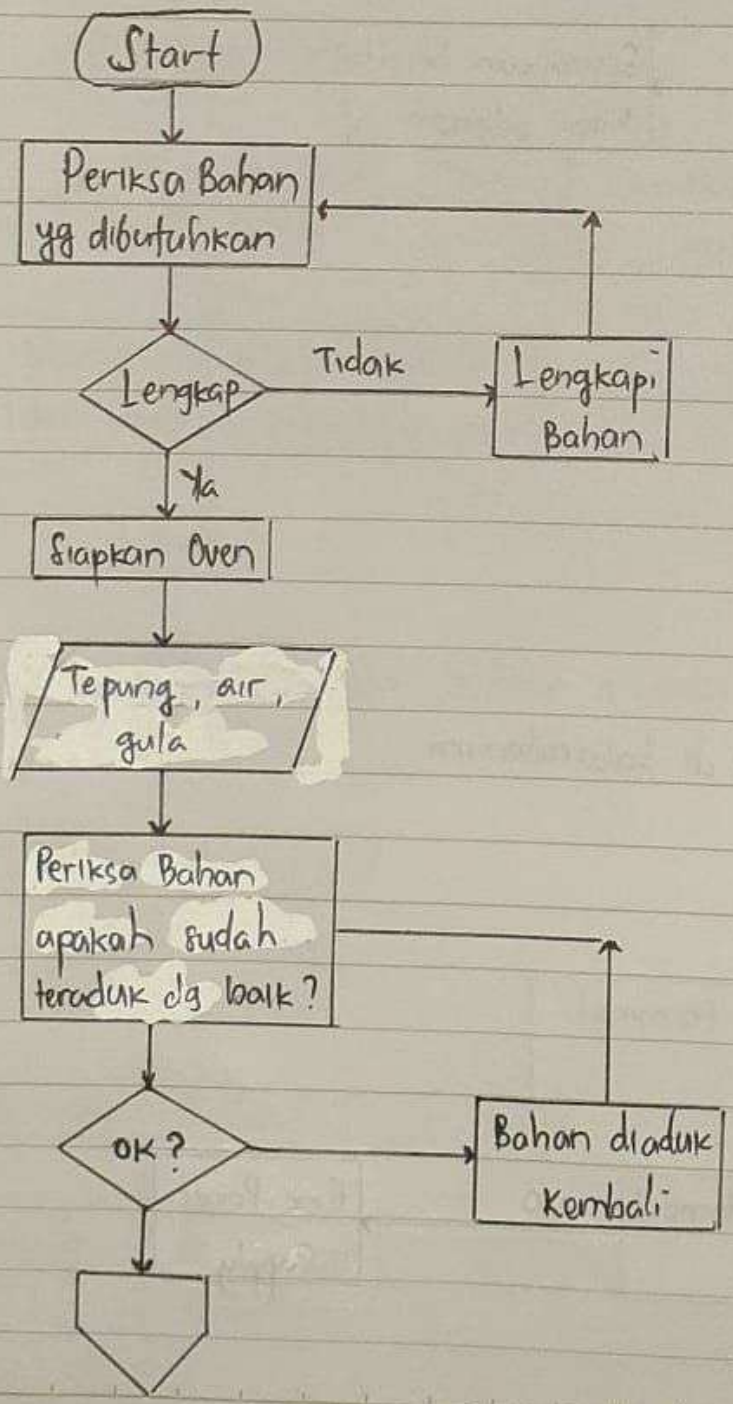
No. Bp : 2201081007
Latihan modul 1 dan Modul 3

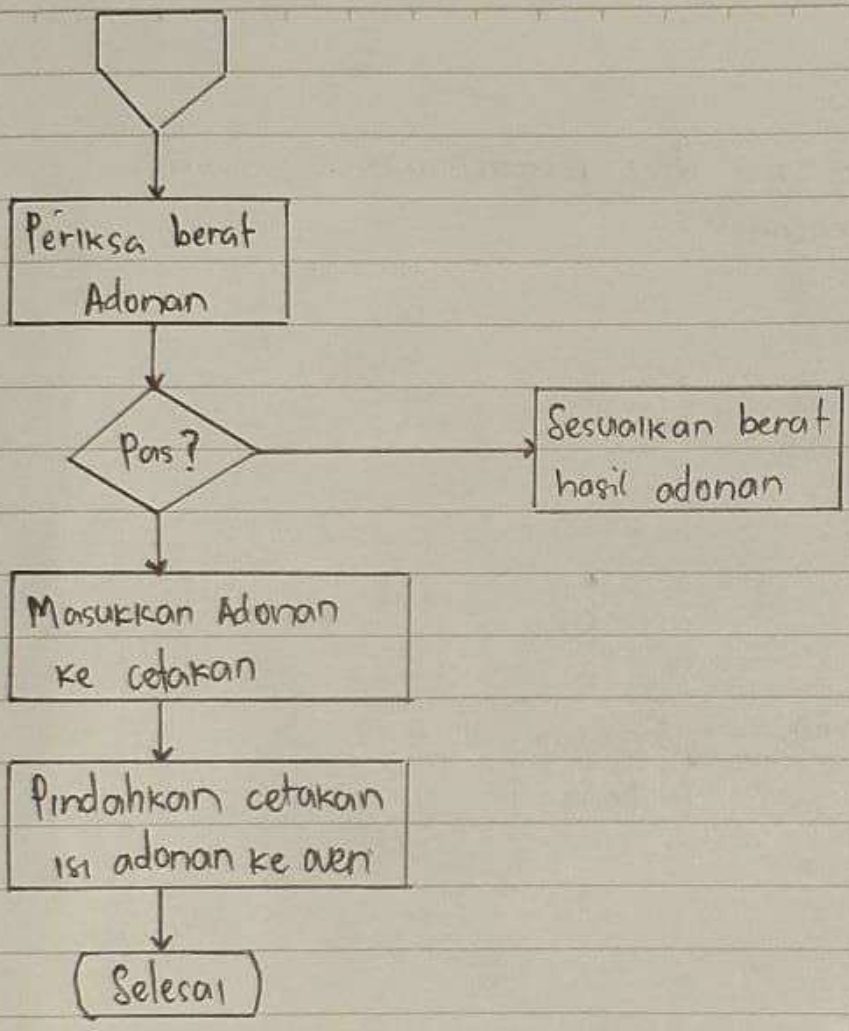
No.
Date

Latihan Modul 1

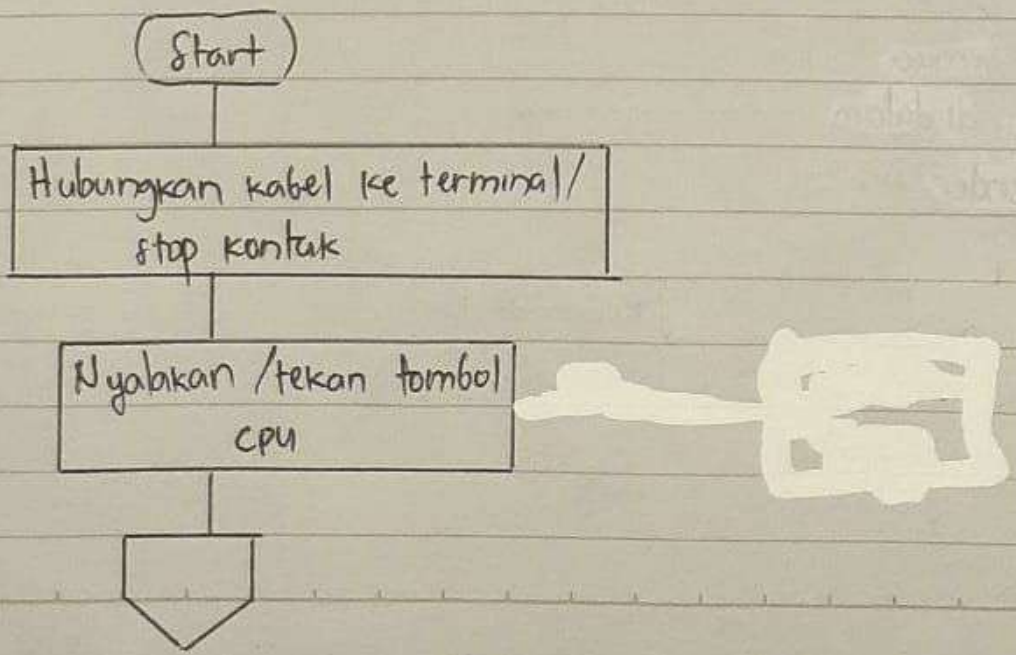
Susunlah sebuah algoritma dari permasalahan dibawah (Pseudocode atau Flowchart)

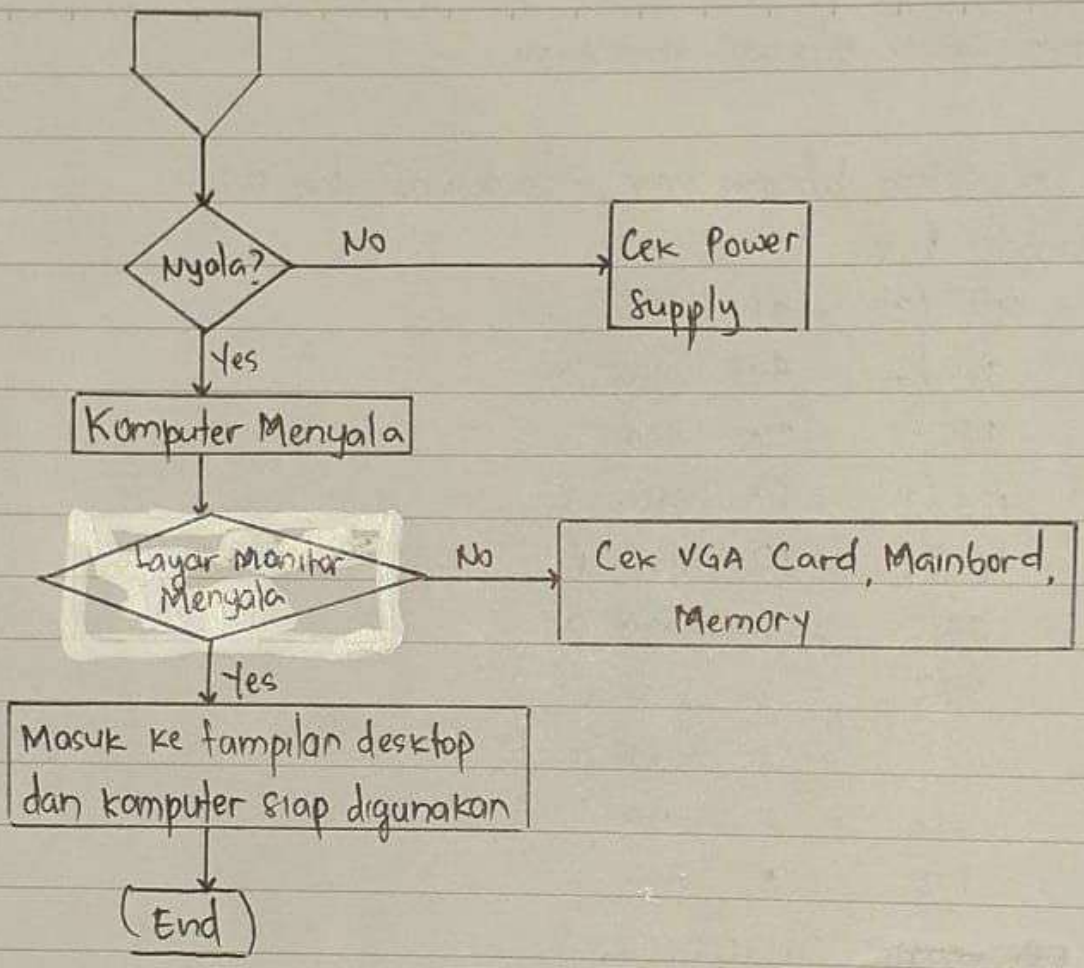
1. Memasak Roti



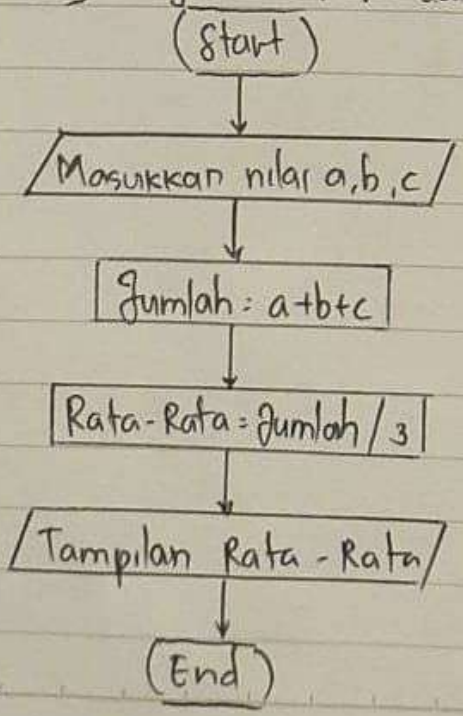


2. Menggunakan komputer di laboratorium





3. Menghitung Rata - Rata dari 3 buah bilangan.



Konversi Sistem Bilangan berikut ini :

1. 1980_{10} ke sistem bilangan biner, Heksadesimal, dan oktal.

* Bilangan Biner :

1980_{10} = 1980 / 2 = 990 sisa 0
990 / 2 = 495 sisa 0
495 / 2 = 247 sisa 1
123 / 2 = 61 sisa 1
61 / 2 = 30 sisa 1
30 / 2 = 15 sisa 0
15 / 2 = 7 sisa 1
7 / 2 = 3 sisa 1
3 / 2 = 1 sisa 1
1 / 2 = 0 sisa 1

Biner : 11110111100_2

* Heksadesimal

1980_{10} = 1980 / 16 = 123 sisa 12 (C)
123 / 16 = 7 sisa 11 (B)
7 / 16 = 0 sisa 7

Heksadesimal : 7BC

* Oktal

1980_{10} = 1980 / 8 = 247 sisa 4
247 / 8 = 30 sisa 7
30 / 8 = 3 sisa 6
3 / 8 = 0 sisa 3

Oktal = 3674

2. 1001001101_2 ke sistem bilangan Desimal, Heksadesimal, dan Oktal.

* Desimal

$1001001101_2 = \ldots_{10}$

$= 1\times2^9 + 0\times2^8 + 0\times2^7 + 1\times2^6 + 0\times2^5 + 0\times2^4 + 1\times2^3 + 1\times2^2 + 0\times2^1 + 1\times2^0$

$= 512 + 0 + 0 + 64 + 0 + 0 + 8 + 4 + 0 + 1$

$= 589_{10}$ //

* Heksadesimal (pengelompokan 4 bilangan dr kanan)

$1001001101_2 = \ldots_{16}$

1001001101

1101 = D

0100 = 4

0010 = 2

Heksadesimal = $24D_{16}$

Cara II

0 0 1 0	0 1 0 0	1 1 0 1
8 4 2 1	8 4 2 1	8 4 2 1

2 4 8+4+1 = 13 = D

$24D_{16}$

* Oktal (pengelompokkan 3 bilangan dr kanan)

$1001001101_2 = \ldots_8$

1001001101

001 = 1

001 = 1

001 = 1

101 = 5

Oktal = 1115_8

Cara II

0 0 1	0 0 1	0 0 1	1 0 1
4 2 1	4 2 1	4 2 1	4 2 1

1 1 1 4+1 = 5

1115_8

No.

Date

3. 76_8 ke sistem bilangan Biner, Hexodesimal dan Desimal

* Biner

$76_8 = \ldots_2$

$7 = 111$

$6 = 110$

Biner : 111110_2 //

Cara II

4+2+1=7 | 4+2=6

4	2	1	4	2	1
1	1	1	1	1	0

* Hexadesimal

$76_8 = \ldots_{16}$

konversi Biner : 111110

111110 (Kelompokkan 4 dari kanan)

0011 = 3

1110 = 16 = E

Hexadesimal : 3E //

* Desimal

$76_8 = \ldots_{10}$

$7 \times 8^1 + 6 \times 8^0 = 56 + 6$

$= 62_{10}$ //

4. $43F_{16}$ ke sistem bilangan Biner, Desimal, dan Oktal.

* Biner

$43F_{16} = \ldots_2$

4 = 0100
3 = 0011
F = 15 = 1111
Biner = 010000111111 ✓

* Desimal
$43F_{16}$ = ... 10

$43F_{16} = 4 \times 16^2 + 3 \times 16^1 + F \times 16^0$
$= 1024 + 48 + 15$
$= 1087_{10}$

+ Oktal
$43F_{16}$ = ... 8

43F = 010000111111
010 = 2
000 = 0
111 = 7
111 = 7
oktal = 2077_8 ✓