

TUTORIAL 2(a)

Carta Alir

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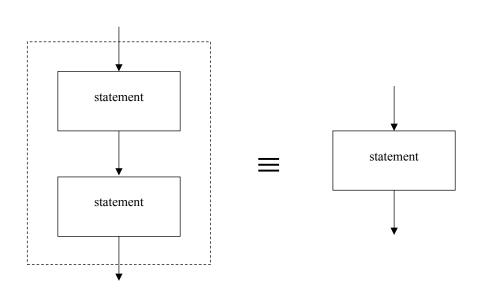
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Slide 1



Bab 2: Penyelesaian Masalah & Pengenalan Kepada Pengaturcaraan

Sequential Control Structure



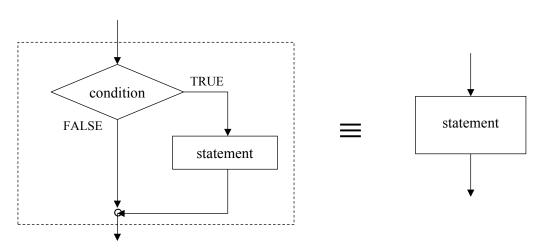
Multiple statements considered as one statement

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Selection Control Structure

If construct



If set condition is true execute statement, else execute nothing

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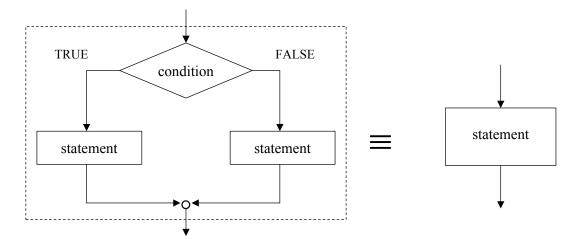
Slide



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Selection Control Structure (cont..)

If-else construct



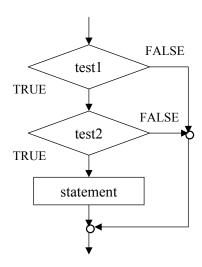
If set condition is true execute first statement, else execute second statement

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Selection Control Structure (cont..)

Nested if



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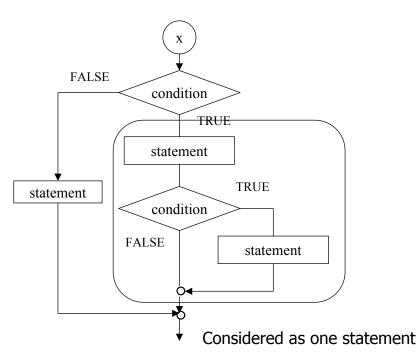
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Selection Control Structure (cont..)

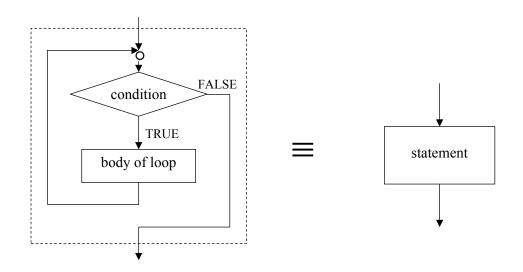
Complex if-else & if Statements





Repeatition Control Structure

while Loop



While a set condition is true, repeat statement (body of loop)

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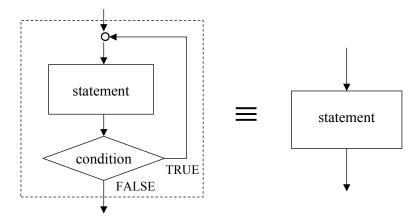
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Repeatition Control Structure (cont...)

do-while Loop



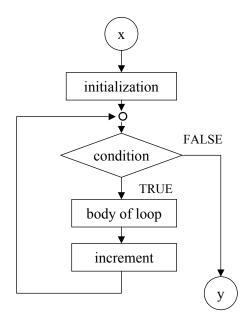
Do a statement (body of loop) while a statement is true

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Repeatition Control Structure (cont...)

for Loop



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Latihan

Merekabentuk Algoritma Dalam Bentuk Carta Alir

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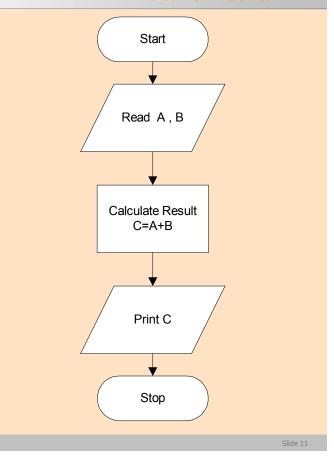
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CILL 10



Tutorial: Carta Alir

1. Mengira hasil tambah dua nombor.



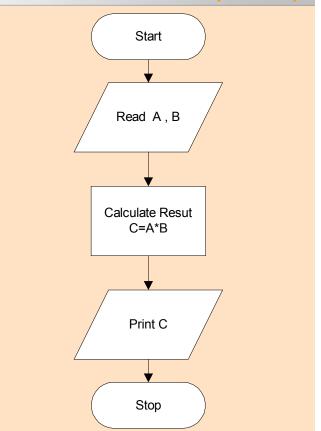
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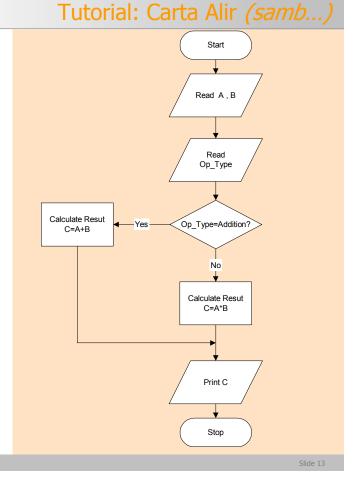
2. Mengira hasil darab dua nombor.

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3. Mengira sama ada hasil tambah atau hasil darab dua nombor.



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4. Mengira hasil tambah n bilangan nombor.

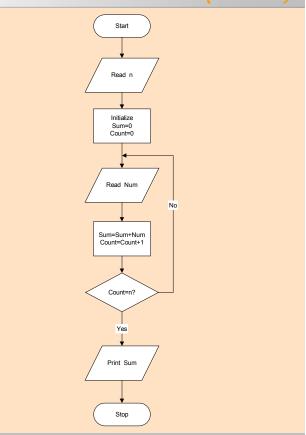
Contoh:

$$n=3$$

Contoh:

$$n=5$$

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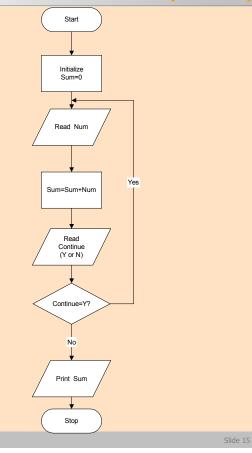
5. Mengira hasil tambah sebarang bilangan nombor.

Contoh:

10+20+30

Enter Number>> 10
More Number?>> Y
Enter Number>> 20
More Number?>> Y
Enter Number>> 30
More Number?>> N

Result=60



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Teknik Pengaturcaraan C

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Tutorial: Carta Alir (samb...)

Read n Initialize Sum=0 i=1 Sum=Sum+i i=i+1 No i=i+1 Print Sum

6. Mengira hasil bagi

$$\sum_{i=1}^{n} j = 1+2+3...+ n$$



7. Mengira hasil operasi arithmetik bagi dua nombor. Jenis operasi terdiri daripada campur, tolak, darab dan bahagi.

Contoh:

100 / 20

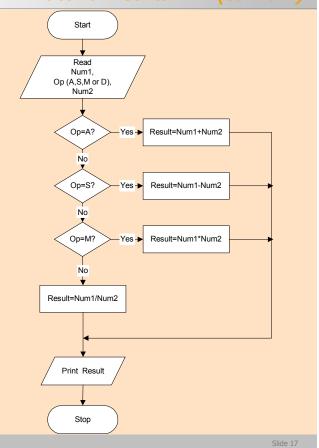
Enter First Number>> 100 Enter Operation>> **D** Enter Second Number>> 20

Result=5

Notes: Op: A=Add, S=Substract, M=Multiply, D=Divide

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8. Mengira hasil operasi arithmetik bagi sebarang bilangan nombor.

Contoh:

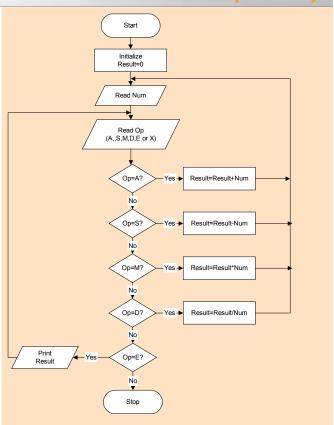
(100-30)*2

Enter Number>> 100 Enter Operation> S Enter Number>> 30 Enter Operation> E Result=70 Enter Operation> M Enter Number>> 2 Enter Operation> E Result=140 Enter Operation=X

Op: A=Add, S=Substract, M=Multiply, *D=Divide*, E=Equals, X=Exit

Tutorial: Carta Alir (samb...)

Bab 2: Penyelesaian Masalah & Pengenalan Kepada Pengaturcaraan





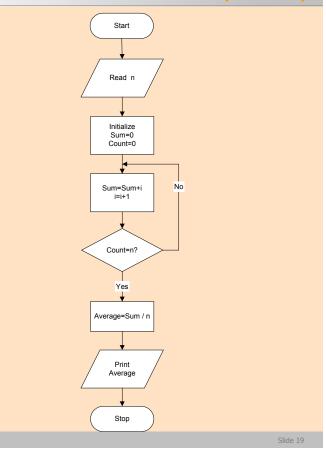
9. Mengira purata *n* bilangan nombor

Contoh:

n=4

Nombor: 10,20,10,40

Purata=20



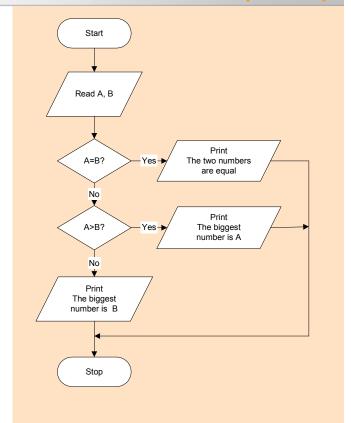
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10. Menentukan nombor terbesar dariapda dua nombor

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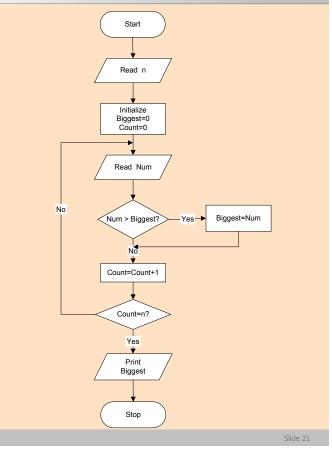
11. Menentukan nombor terbesar daripada *n* bilangan nombor

Contoh:

n=4

Nombor: 10,20,10,40

Nombor terbesar=40



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12. Menentukan sama ada nombor ganjil atau genap.

Nombor genap=> boleh dibahagi (tanpa baki) dengan 2.

Contoh:

Nombor= 45

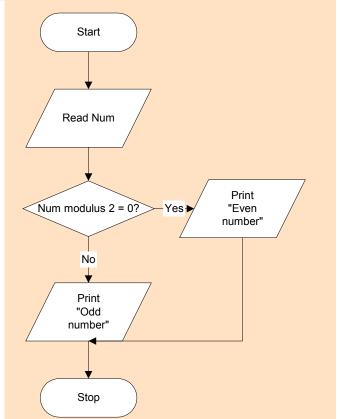
"Nombor ganjil"

Contoh:

Nombor= 4

"Nombor genap"

Bab 2: Penyelesaian Masalah & Pengenalan Kepada Pengaturcaraan





13. Menentukan sama ada nombor perdana.

Nombor perdana=> boleh dibahagi dengan 1 dan diri sendiri.

Contoh:

Nombor= 2

"Nombor Perdana"

Contoh:

Nombor= 4

"Bukan Nombor Perdana"

Start Read Num Initialize i<Num? No-Print Yes Num is a prime number i=i+1 Num mod i = 0? Yes Print Num is not prime number Stop

Algoritma 1: Uji bahagi d<mark>engan</mark> semua nombor dari 2 hingga Num -1

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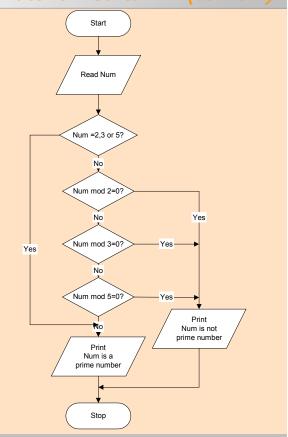
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Bab 2: Penyelesaian Masalah & Pengenalan Kepada Pengaturcaraan

Tutorial: Carta Alir (samb...)

13. Menentukan sama ada nombor perdana.

Algoritma 2: Uji bahagi deng<mark>an</mark> nombor-nombor 2,3 dan 5 sa<mark>haja</mark>





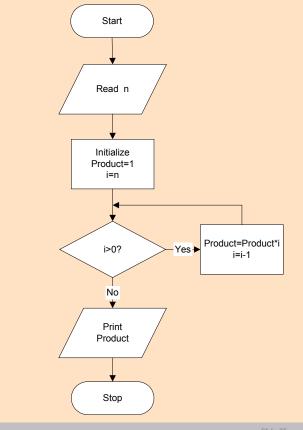
14. Mengira faktorial bagi suatu nombor, n!

$$n! = f(n) \begin{cases} 1 & \text{if n=0} \\ n*(n-1)*(n-2)....*2*1 & \text{if n>0} \end{cases}$$

Contoh:

$$5! = 5 \times 4 \times 3 \times 2 \times 1$$

= 120



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