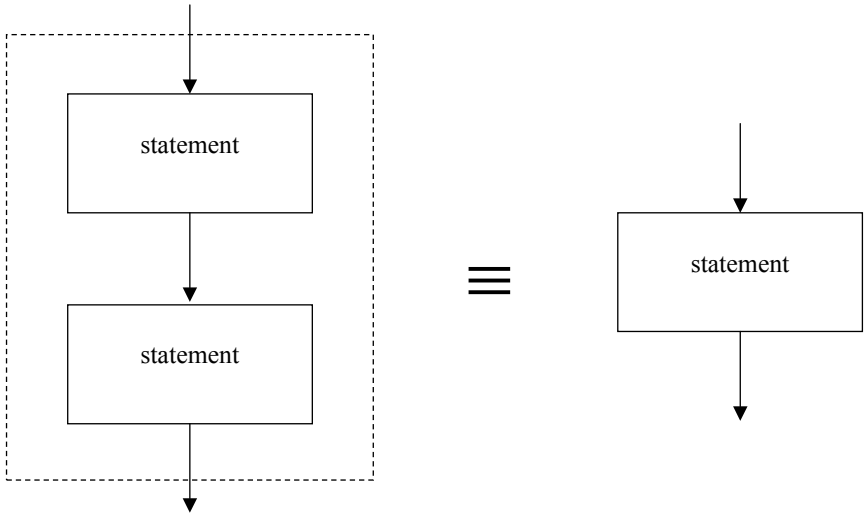
TUTORIAL 2(a)

Carta Alir

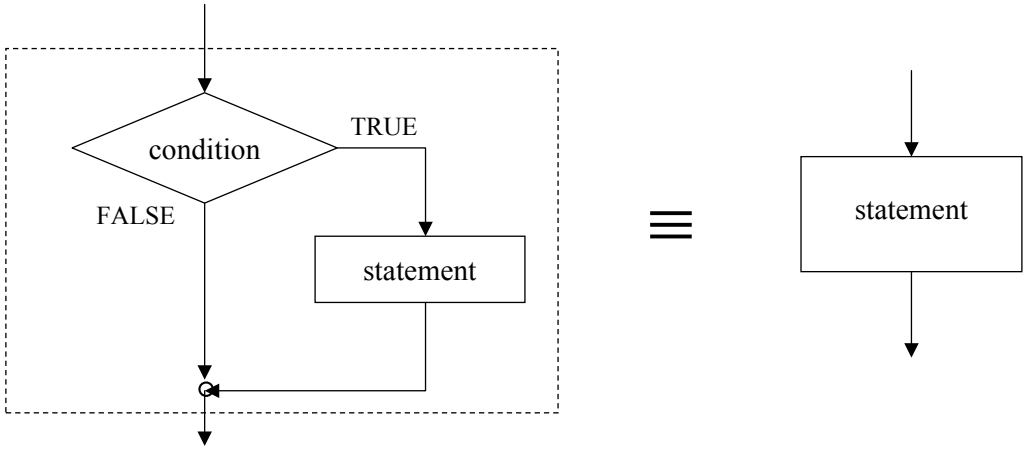
Sequential Control Structure



Multiple statements considered as one statement

Selection Control Structure

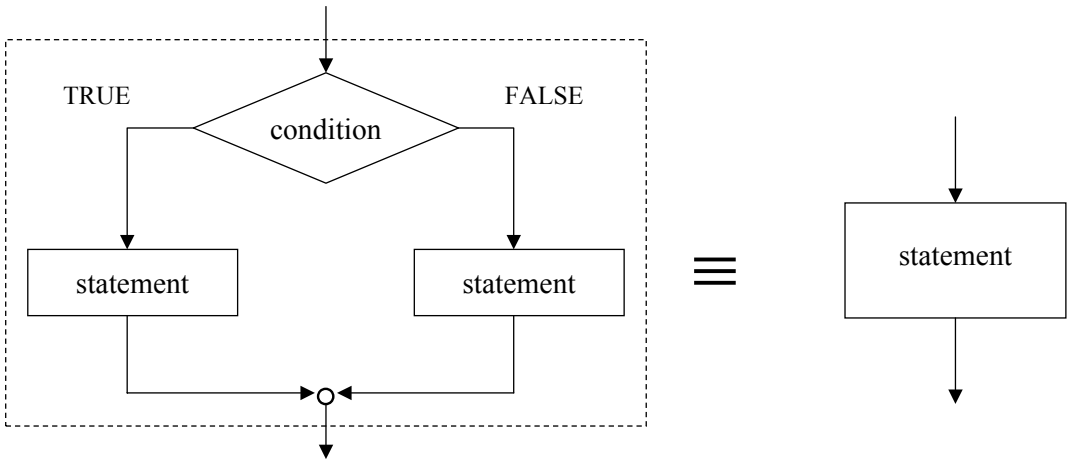
If construct



If set condition is true execute statement, else execute nothing

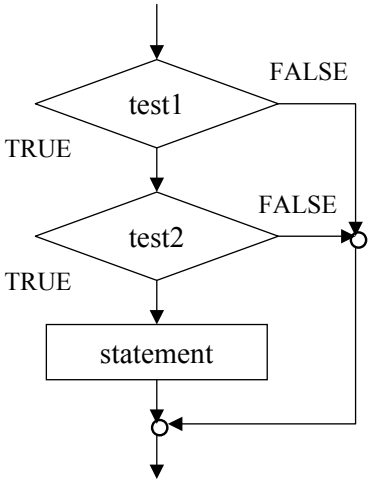
Selection Control Structure (*cont..*)

If-else construct

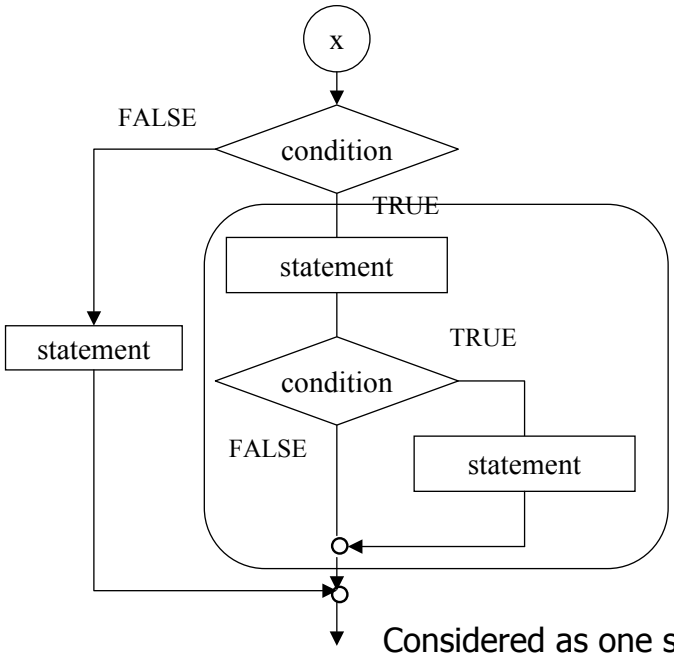


If set condition is true execute first statement, else execute second statement

Nested if

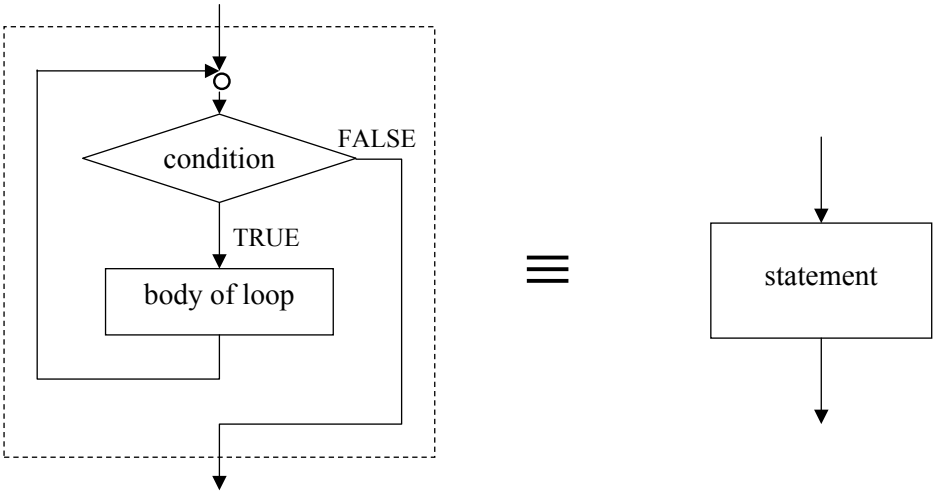


Complex if-else & if Statements



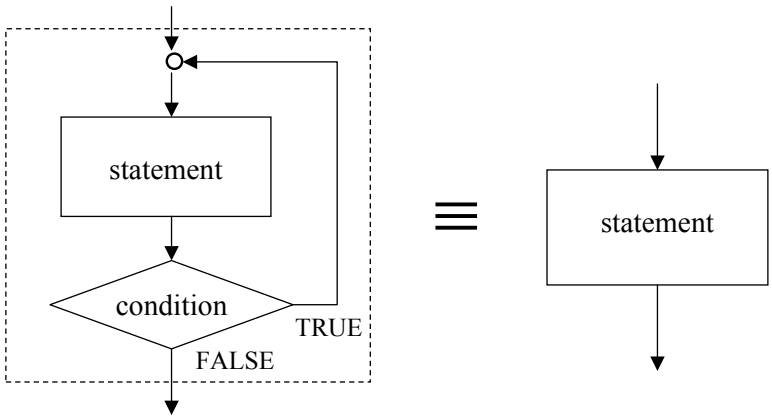
Considered as one statement

while Loop



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

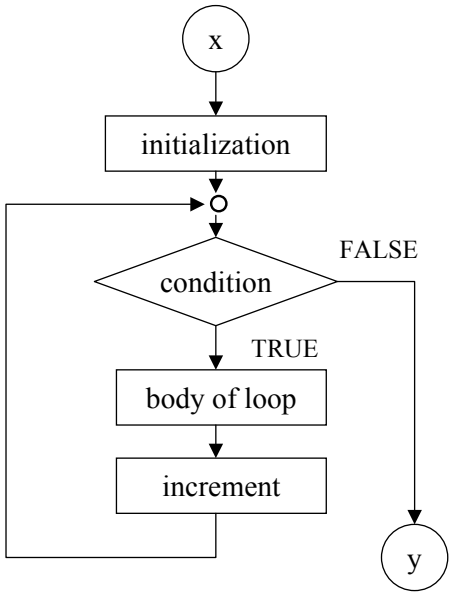
do-while Loop



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

Repeatition Control Structure (*cont...*)

for Loop

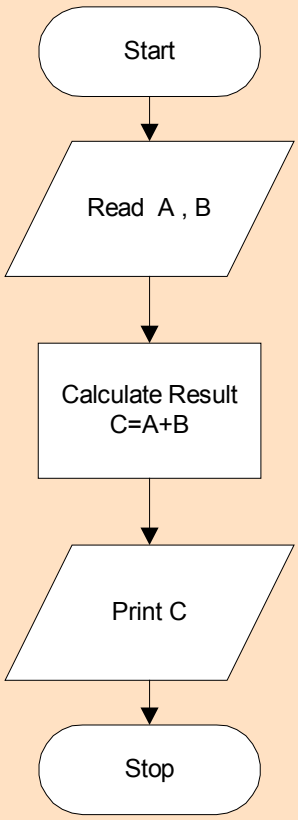


Latihan

Merekabentuk Algoritma Dalam Bentuk Carta Alir

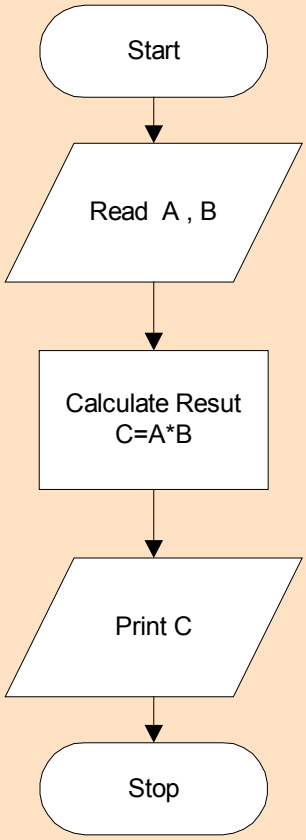
Tutorial: Carta Alir

1. Mengira hasil tambah dua nombor.



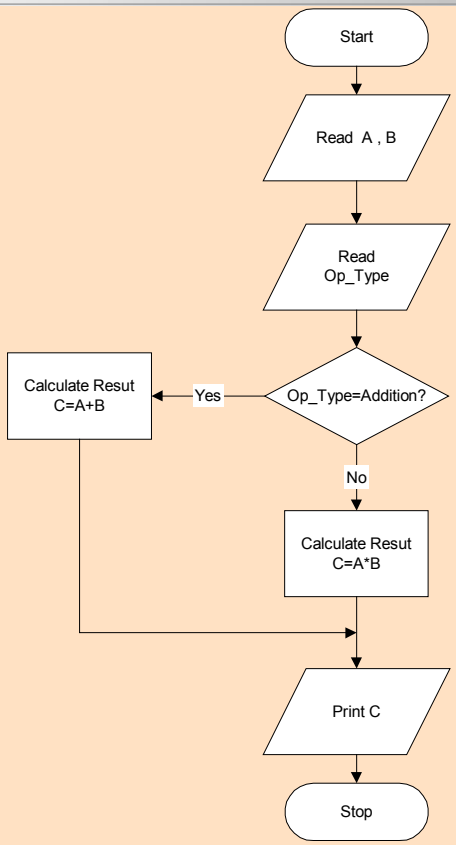
Tutorial: Carta Alir *(samb...)*

2. Mengira hasil darab dua nombor.



Tutorial: Carta Alir *(samb...)*

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



Tutorial: Carta Alir *(samb...)*

4. Mengira hasil tambah ***n*** bilangan nombor.

Contoh:

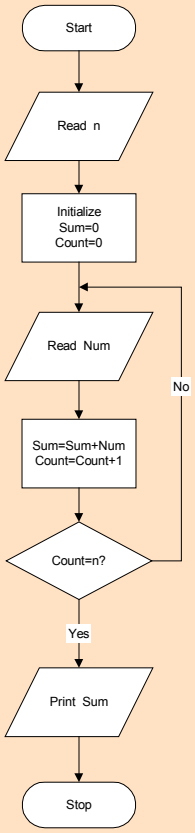
n=3

1+100+9

Contoh:

n=5

1+10+100+9+1000



Tutorial: Carta Alir *(samb…)*

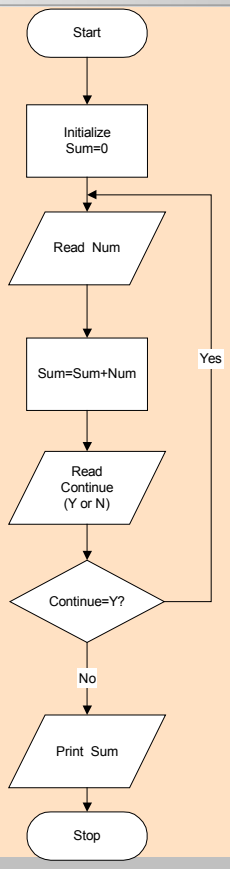
5. Mengira hasil tambah sebarang bilangan nombor.

Contoh:

10+20+30

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

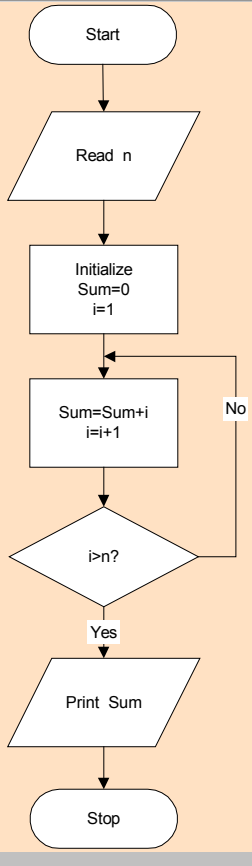
Result=60



Tutorial: Carta Alir *(samb…)*

6. Mengira hasil bagi

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



Tutorial: Carta Alir *(samb...)*

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

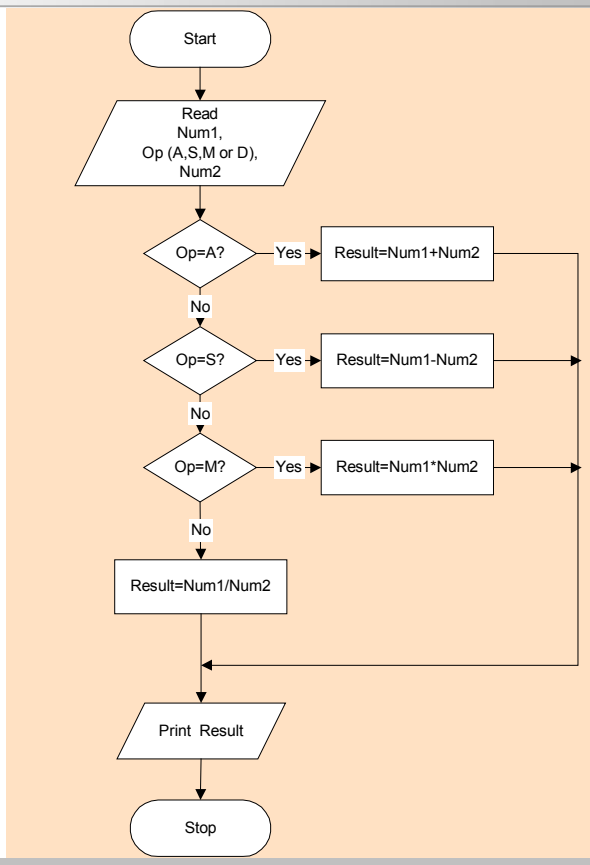
Contoh:

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



Tutorial: Carta Alir *(samb...)*

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**

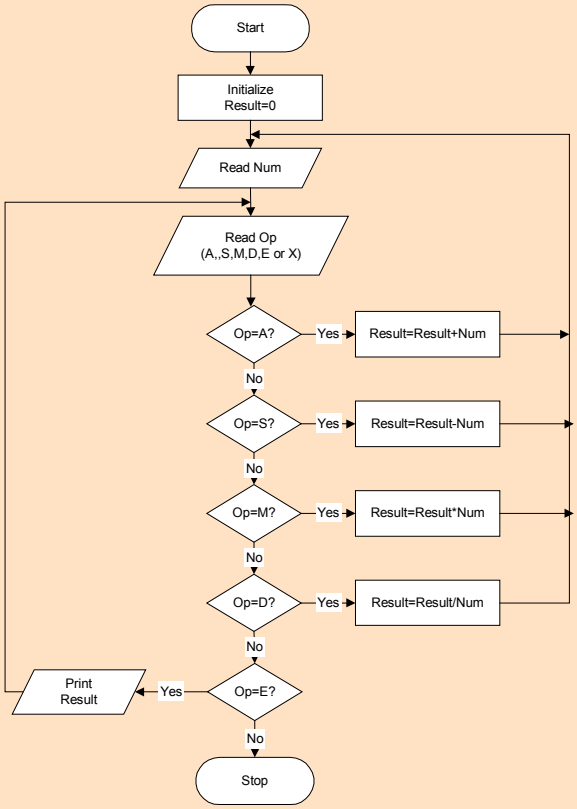
Result=70

Enter Operation> **M**
Enter Number>> **2**
Enter Operation> **E**

Result=140

Enter Operation=X

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



Tutorial: Carta Alir *(samb...)*

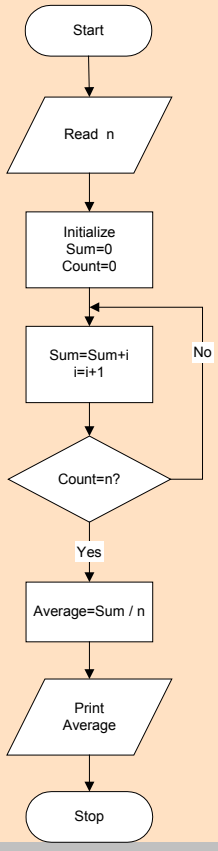
9. Mengira purata ***n*** bilangan nombor

Contoh:

n=4

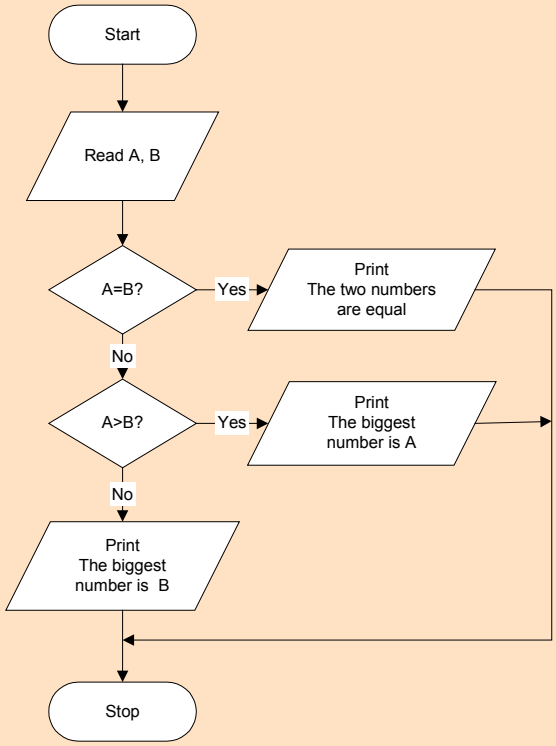
Nombor: 10,20,10,40

Purata=20



Tutorial: Carta Alir *(samb...)*

10. Menentukan nombor terbesar dariapda dua nombor



Tutorial: Carta Alir *(samb...)*

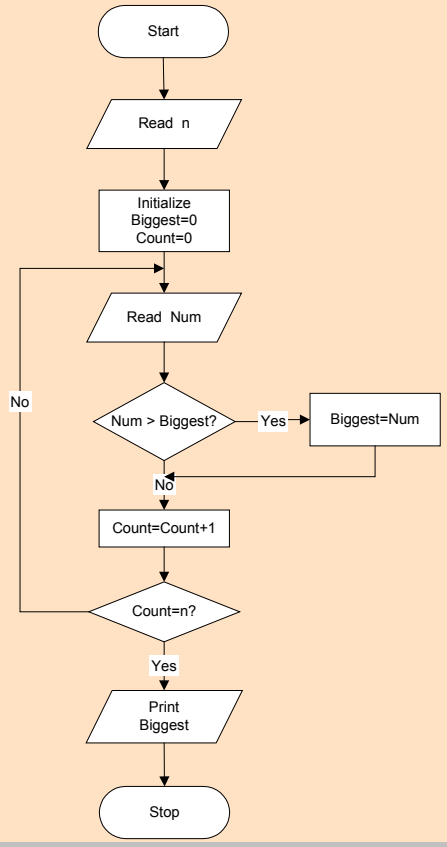
11. Menentukan nombor terbesar daripada ***n*** bilangan nombor

Contoh:

n=4

Nombor: 10,20,10,40

Nombor terbesar=40



Tutorial: Carta Alir *(samb...)*

12. Menentukan sama ada nombor ganjil atau genap.

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

Contoh:

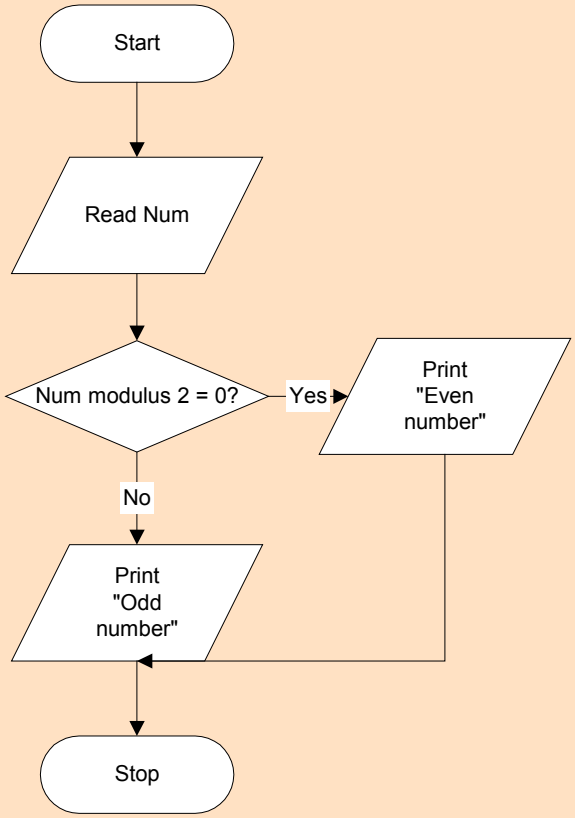
Nombor= 45

"Nombor ganjil"

Contoh:

Nombor= 4

"Nombor genap"



Tutorial: Carta Alir *(samb…)*

13. Menentukan sama ada nombor perdana.

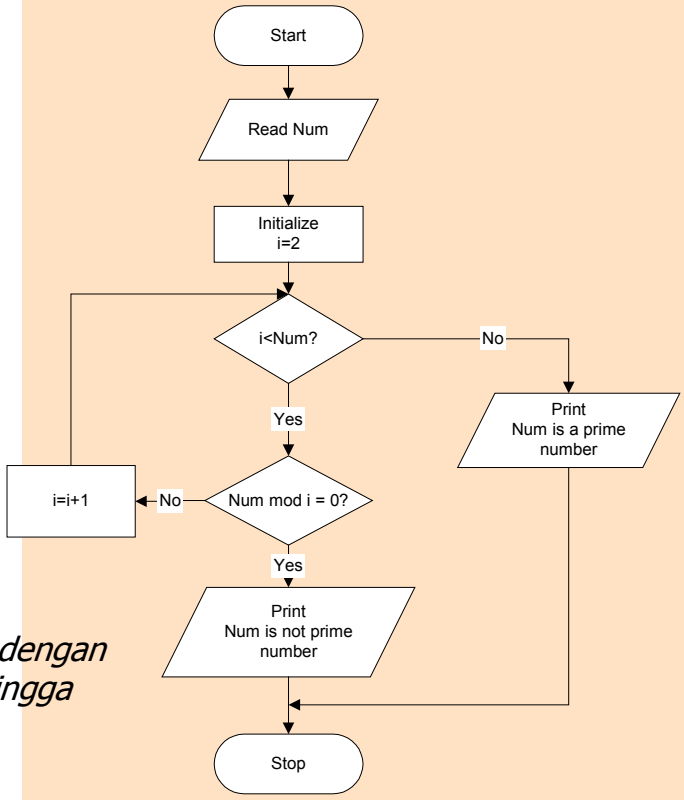
Nombor perdana=> boleh dibahagi dengan 1 dan diri sendiri.

Contoh:
Nombor= 2

"Nombor Perdana"

Contoh:
Nombor= 4

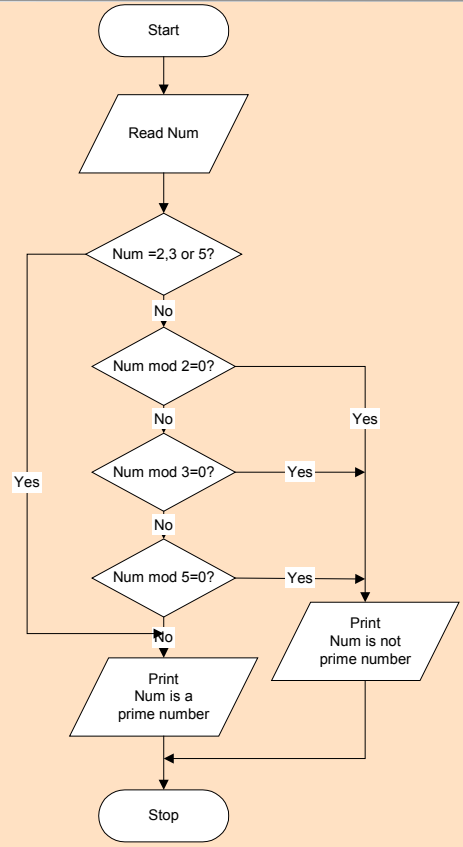
"Bukan Nombor Perdana"



Algoritma 1: Uji bahagi dengan semua nombor dari 2 hingga Num -1

Tutorial: Carta Alir *(samb…)*

13. Menentukan sama ada nombor perdana.



Algoritma 2: Uji bahagi dengan nombor-nombor 2,3 dan 5 sahaja

Tutorial: Carta Alir *(samb...)*

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 x 4 x 3 x 2 x 1
= 120