

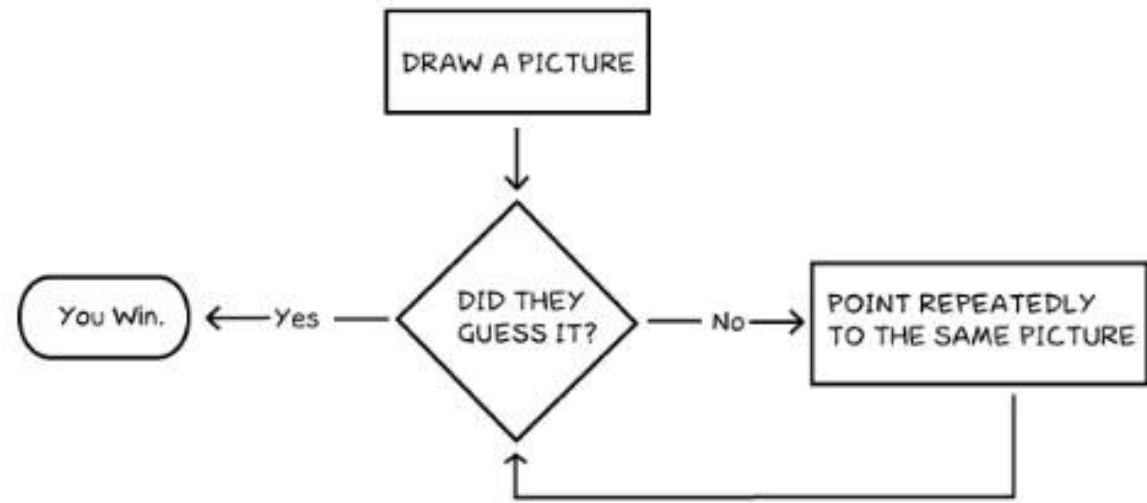
2. While en Do While

H6. Herhalingen, herhalingen, herhaling



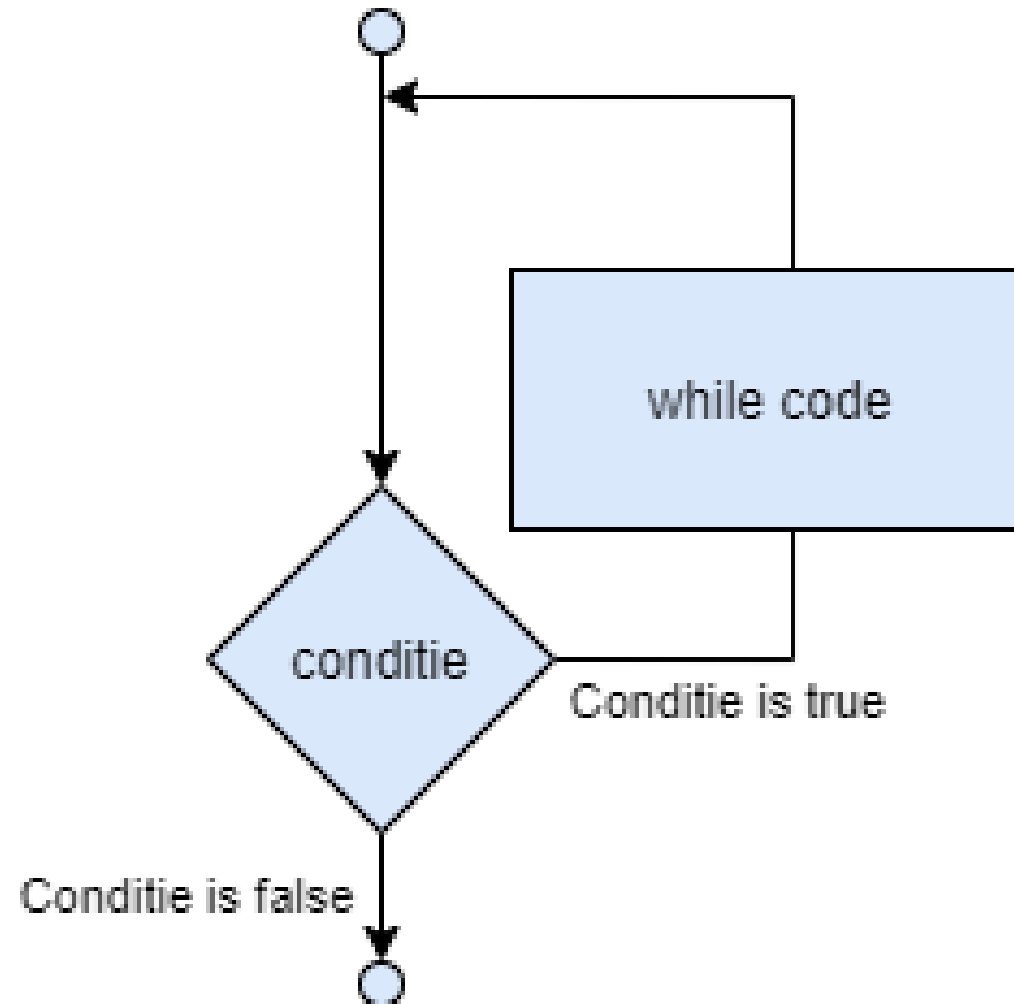
While

How To Play Pictionary

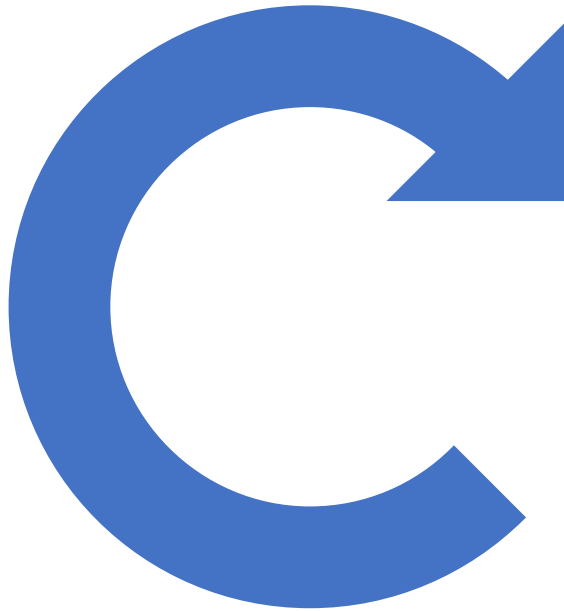


Doghouse Diaries
"Where pennies are a dime a dozen."

Gebruik van de while loop



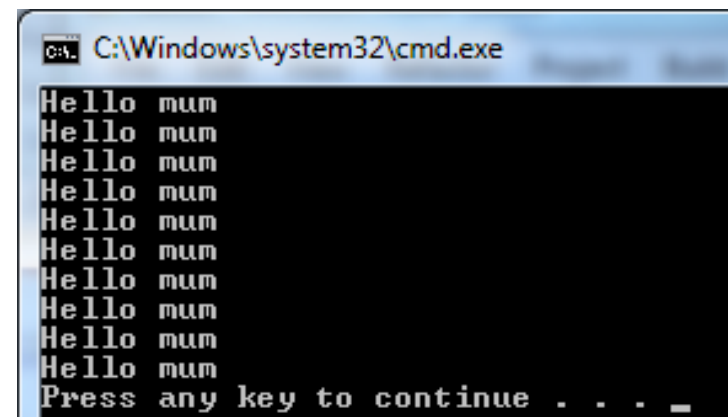
Gebruik van de while loop



- **while loop**
 - Gebruikt om groep van statements (block) te blijven herhalen zolang de while conditie *true* blijft
- **Infinite loop**
 - Een loop die nooit stopt (bug of bewust?)

Zelfde actie aantal keer herhalen

```
int i ;  
i = 1 ;  
while ( i < 11 ) {  
    Console.WriteLine ( "Hello mum" ) ;  
    i = i + 1 ;  
}
```



A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The window displays the output of the C# program, which is ten lines of "Hello mum" followed by the prompt "Press any key to continue . . . _".

While loop correct laten eindigen?

- Initializeer de 'loop controle variabele' (= **wachterwaarde/sentinel**) VOOR de loop
- Test de controle variabele IN de while expressie
- Pas in de while-loop code de controle variabele aan (of niet)

Gebruik while loop

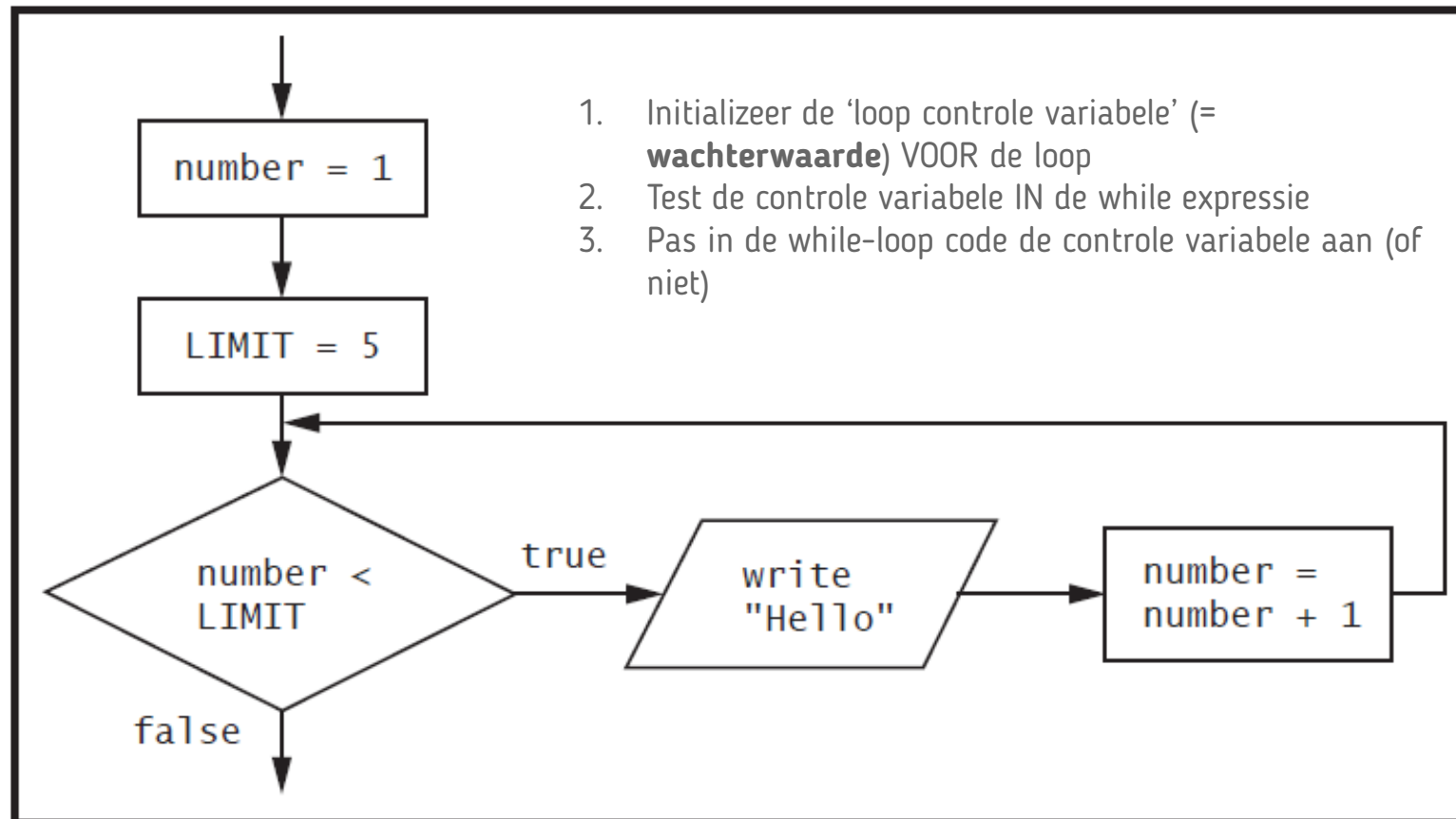


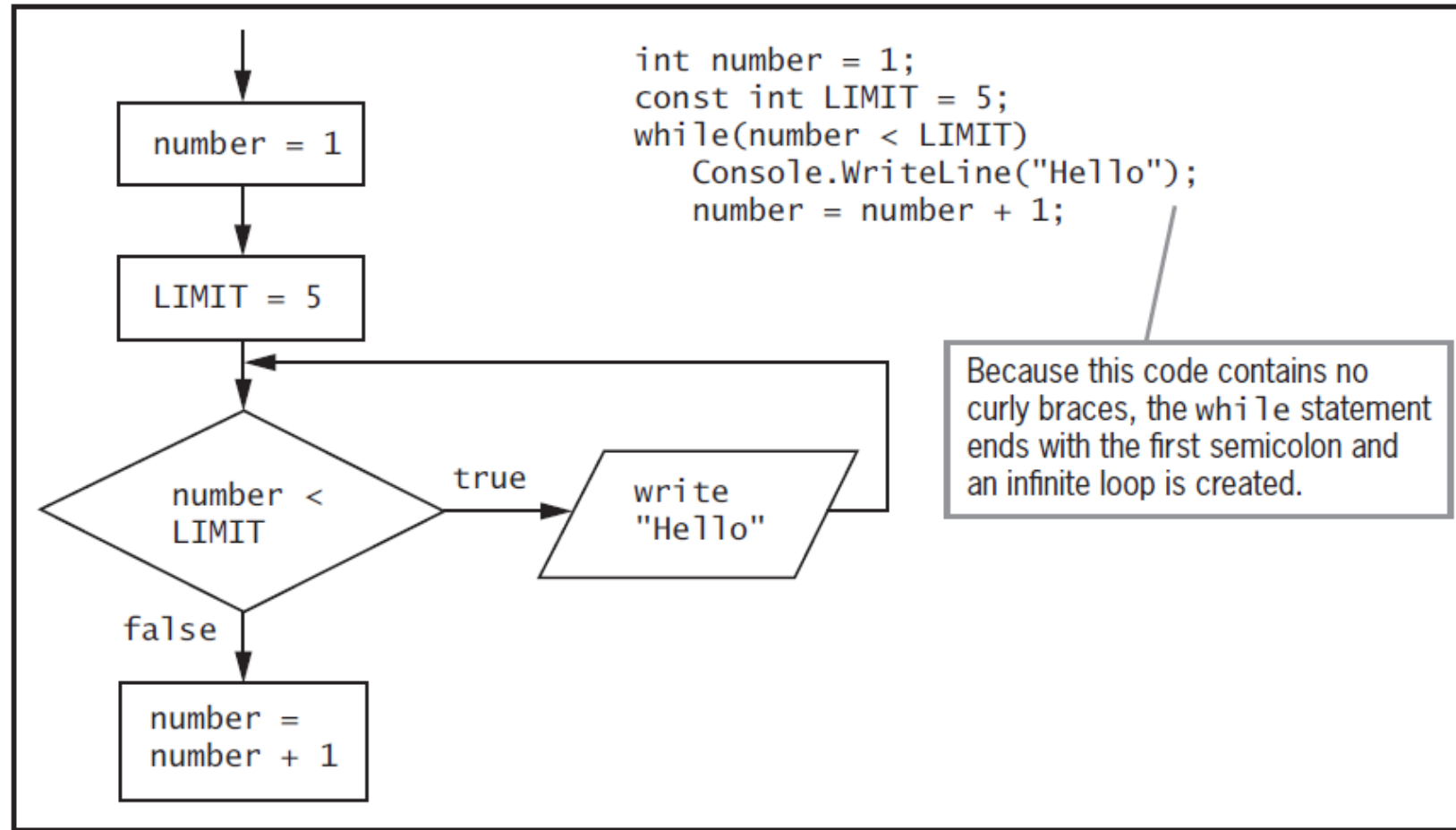
Figure 5-2 Flowchart for the logic of a while loop whose body executes four times

Gebruik while loop

1. Initializeer de 'loop controle variabele' (= **wachterwaarde**) VOOR de loop
2. Test de controle variabele IN de while expressie
3. Pas in de while-loop code de controle variabele aan (of niet)

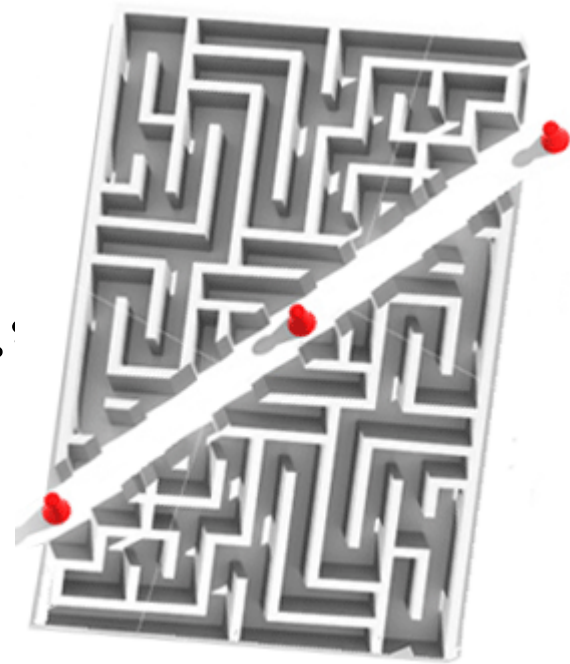
```
using System;
public class FourHellos
{
    public static void Main()
    {
        int number = 1;
        const int LIMIT = 5;
        while(number < LIMIT)
        {
            Console.WriteLine("Hello");
            number = number + 1;
        }
    }
}
```

Figure 5-3 A program that contains a `while` loop whose body executes four times



Visual studio shortcut

“while <tab> <tab>”



Do while

Do-while



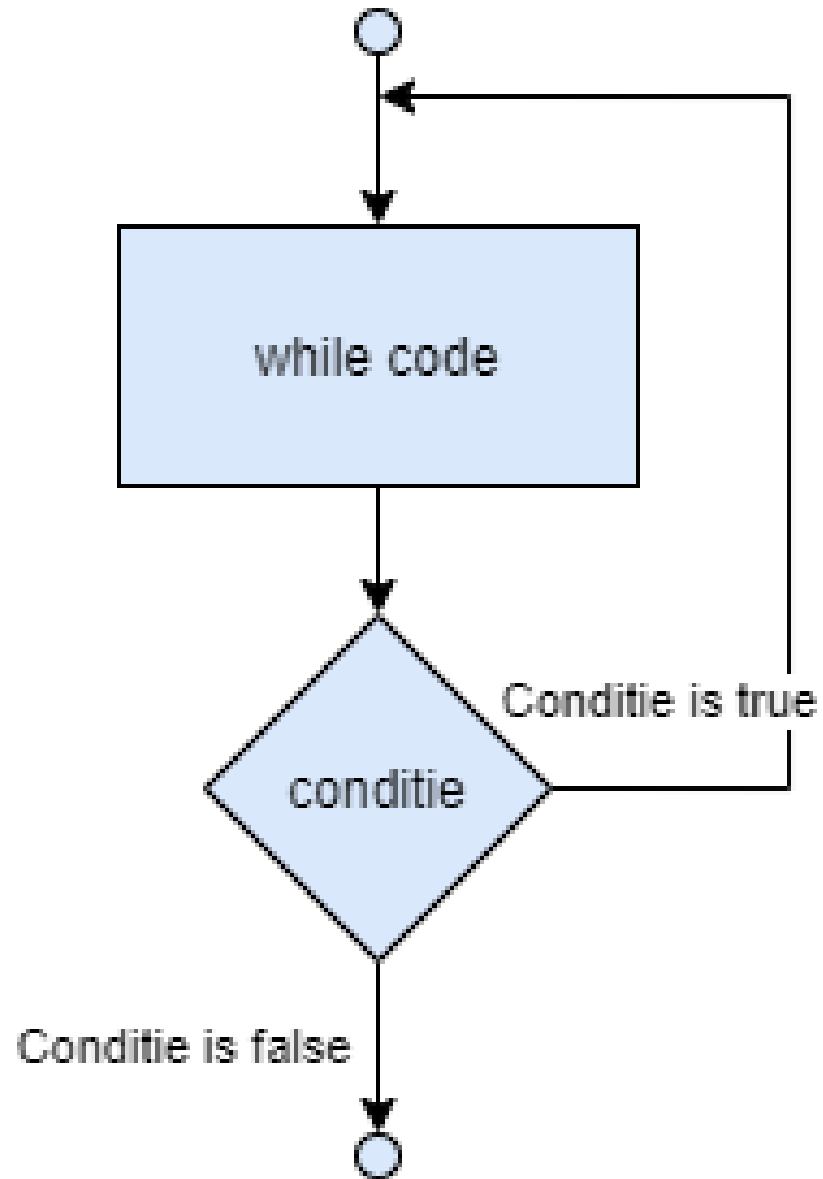
Test wordt **na** loop uitgevoerd



code in loop wordt
minstens 1 maal
uitgevoerd

*(bij while
wordt code in
loop mogelijk
0 maal
uitgevoerd)*

Gebruik van de do while loop



Syntax

```
int teller = 0;  
do  
{  
    Console.WriteLine(teller);  
    teller++;  
} while (teller < 10);
```

Geen ; vergeten na do-while!
(niet bij while)

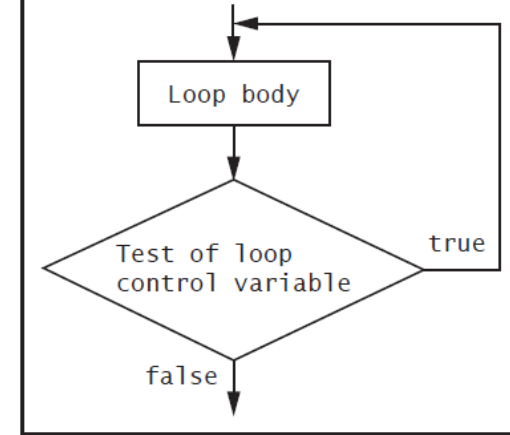
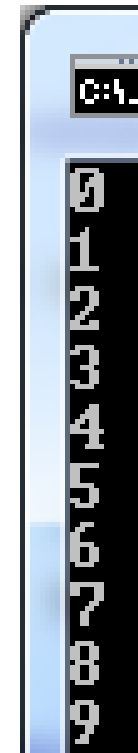
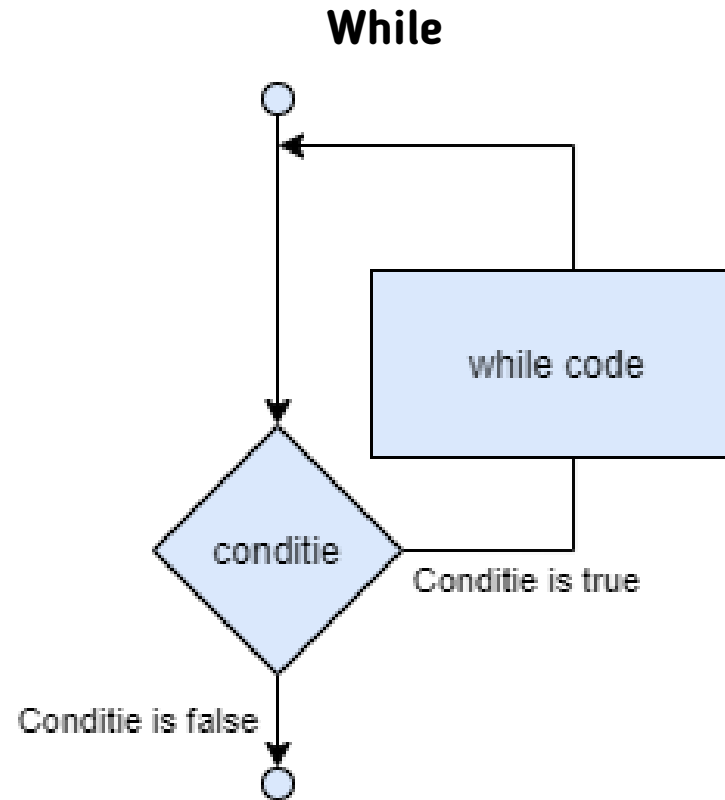
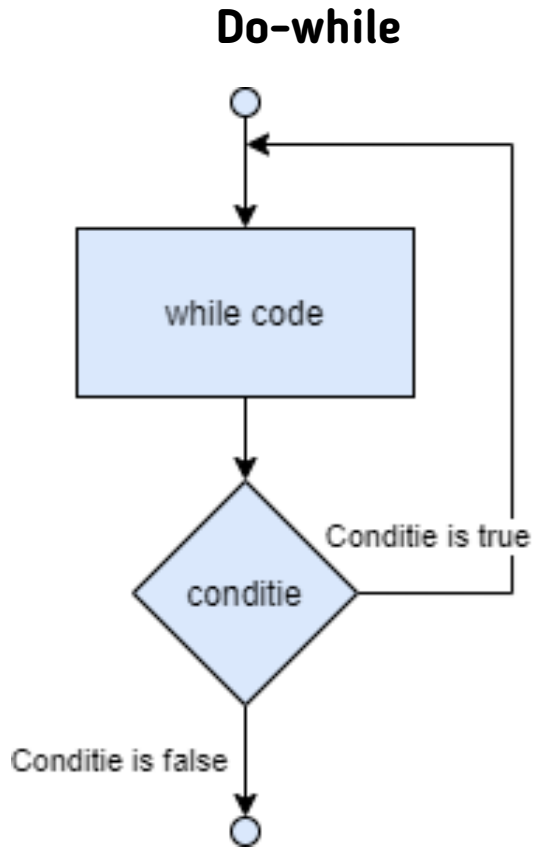
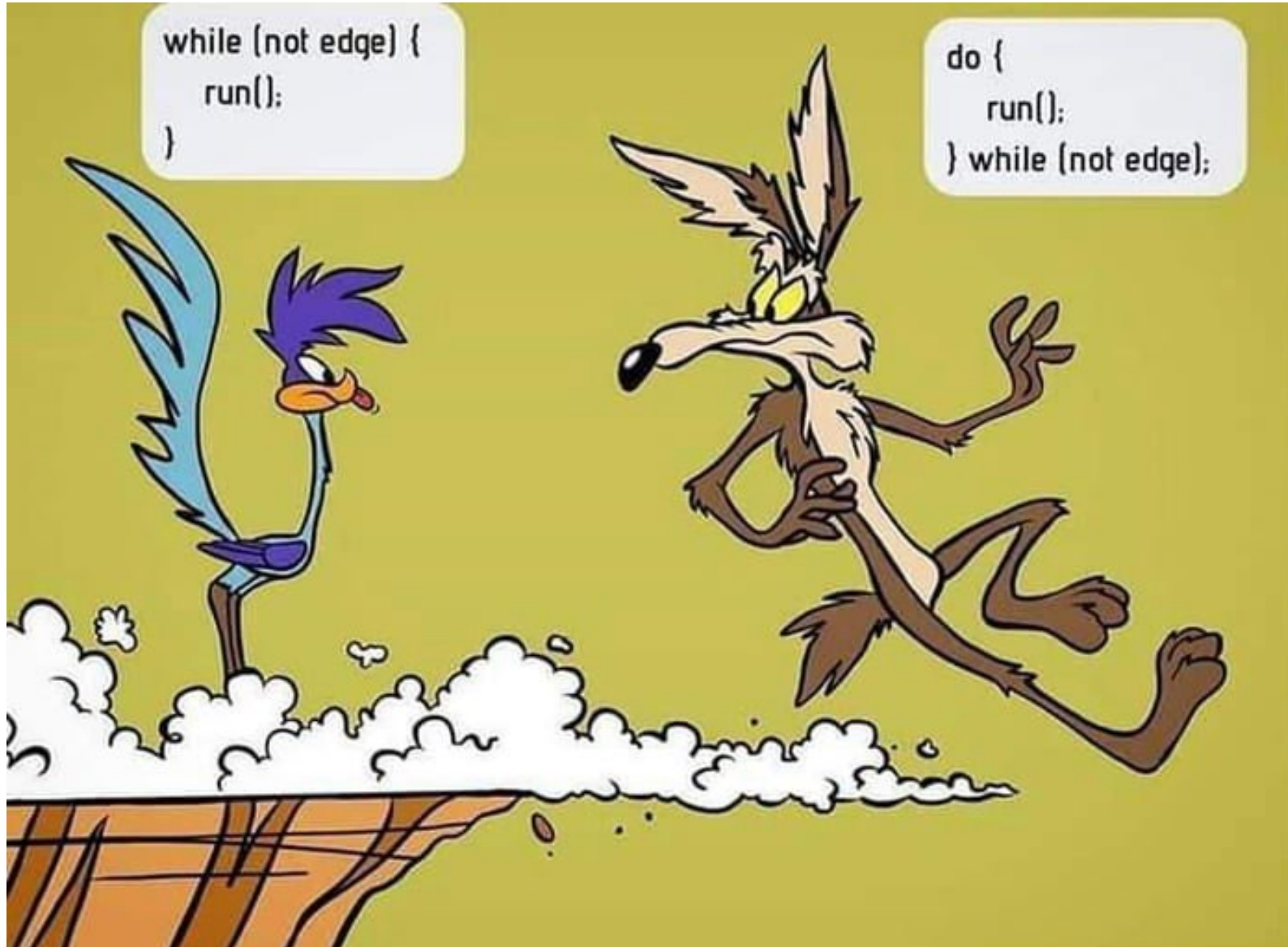


Figure 5-11 Flowchart of a do loop



Do-while vs while



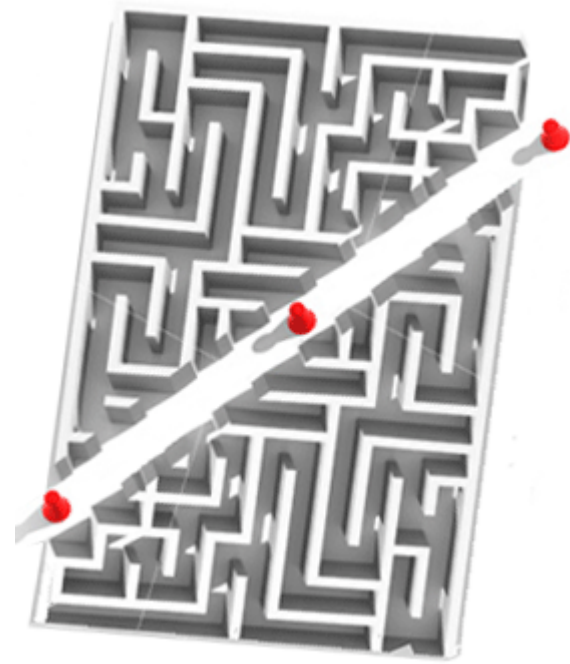


Voorbeeld indefinite loop (kan ook met while)

```
1  string input;  
2  do  
3  {  
4      Console.WriteLine("Geef uw keuze in: a,b of c");  
5      input= Console.ReadLine();  
6  }while( input != "a"  && input != "b" && input != "c");
```

Visual studio shortcut

“do <tab> <tab>”



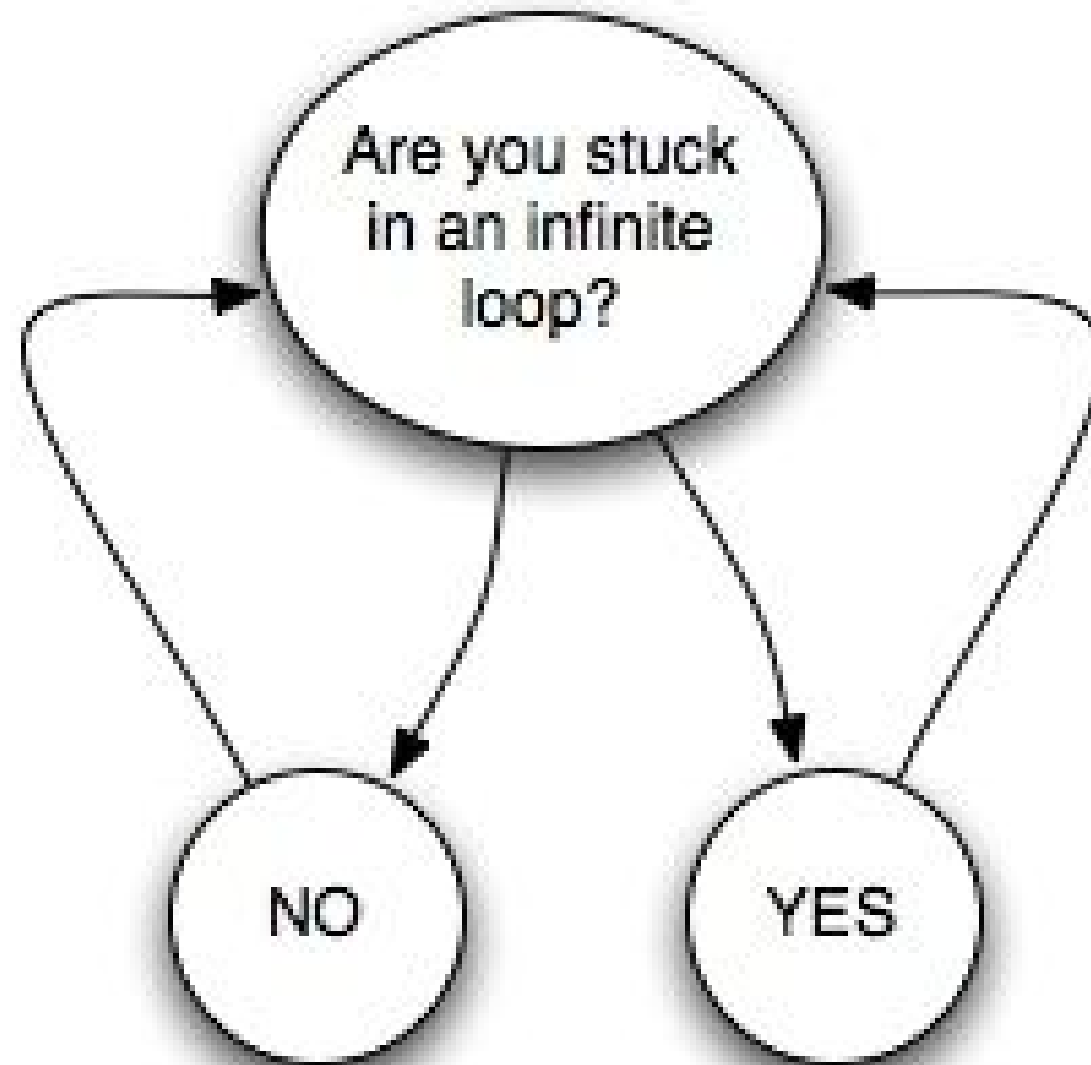
Wanneer stopt dit programma?

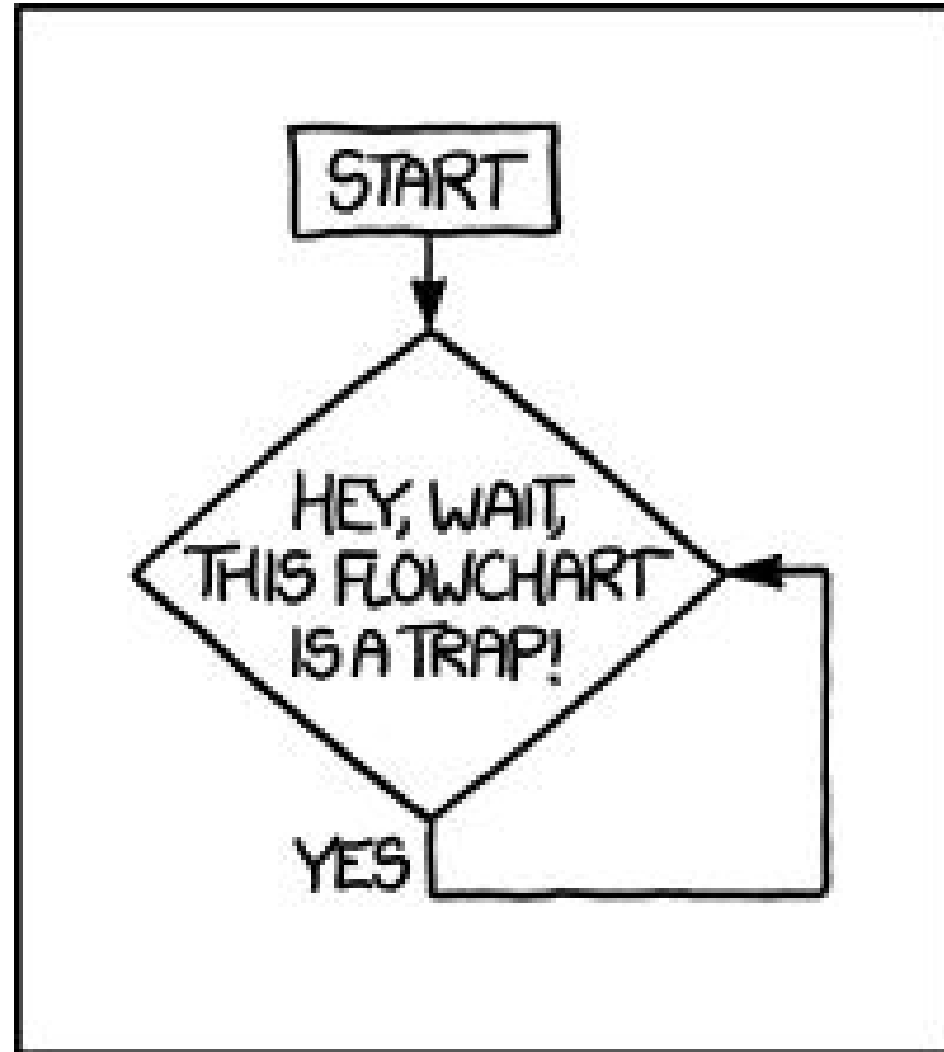
- Dit programma stopt nooit: de testconditie van de while-loop is altijd true!

```
do  
    Console.WriteLine ( "Hello mum" ) ;  
while ( true );
```

- Altijd opletten dat je geen oneindige loops programmeert!







Demo time

- While
- Do While
- Scope bij loops

