

## Using a program flowchart, explain the “WHILE...DO” interaction construction

**Question Source:** KNEC KCSE 1998 Computer Studies

The ‘while...do’ loop is a control structure designed to execute the same block of code again and again until a certain condition is fulfilled.

This loop is used if a **condition** has to be met before the **statements** within the loop are executed.

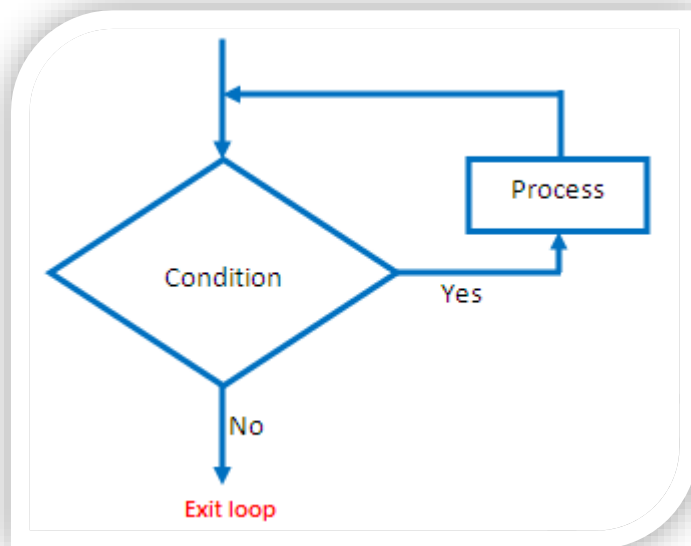


FIGURE 1: WHILE...DO FLOWCHART

### Pseudo code format

WHILE *condition* DO

*Statement*

ENDWHILE

## Application areas of the 'while...do' loop

Most modern programming languages support *do...while* loop instead of *while...do* loop, the main difference between the two is; in the former, the *statement* comes before the *condition* and in the latter, the *condition* comes before the *statement*.

But while...do can be used in Pascal programming language to manipulate repetitive numeric data.

### Example

```
program whileLoop;
var
  a: integer;
begin
  a := 5;
  while a < 10 do
  begin
    writeln('value of a: ', a);
    a := a + 1;
  end;
end.
```

### Expected output

```
value of a: 5
value of a: 6
value of a: 7
value of a: 8
value of a: 9
```