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Chapters and Topics **page**

CHAPTER – 5

LOOPS

LOOP

definite repetitions:

A ***loop*** is a group of instructions the computer executes repeatedly while some **loop** continuation condition remains true. Some **loops** check the condition at the beginning of the **loop** while some loops check the condition whether to repeat next time or not. Definite loops can be controlled using a counter in the conditional expression.

indefinite repetitions:

It is not known in advance as how many repetitions the **loop** will grow through or when the **loop** would break. **Loops** without a condition check repeat continuously until some statement in the **loop** breaks the **loop**.

HOW TO DIVIDE A PROGRAM BETWEEN SEVERAL FILES

Where a function is spread over several files, each file will contain one or more functions. One file will include main while the others will contain functions which are called by others. These other files can be treated as a library of functions.

Programmers usually start designing a program by dividing the problem into easily managed sections. Each of these sections might be implemented as one or more functions.

All functions from each section will usually live in a single file. Where objects are implemented as data structures, it is usual to keep all functions which access that object in the same file. The advantages of this are;

- ***The object can easily be re-used in other programs.***

- ***All related functions are stored together.***
- ***changes to the object require only one file to be modified.***

Where the file contains the definition of an object, or functions which return values, there is a further restriction on calling these functions from another file. Unless functions in another file is told about the object or function definitions, they will be unable to compile them correctly.

The best solution to this problem is to write a header file for each of the C files. This will have the same name as the C file, but ending in .h. The header file contains definitions of all the functions used in the C file.

Whenever a function in another file calls a function from our C file, it can define the function by making a #include of the appropriate .h file.