Unit 6 Software design and development

Good practice

Software structure

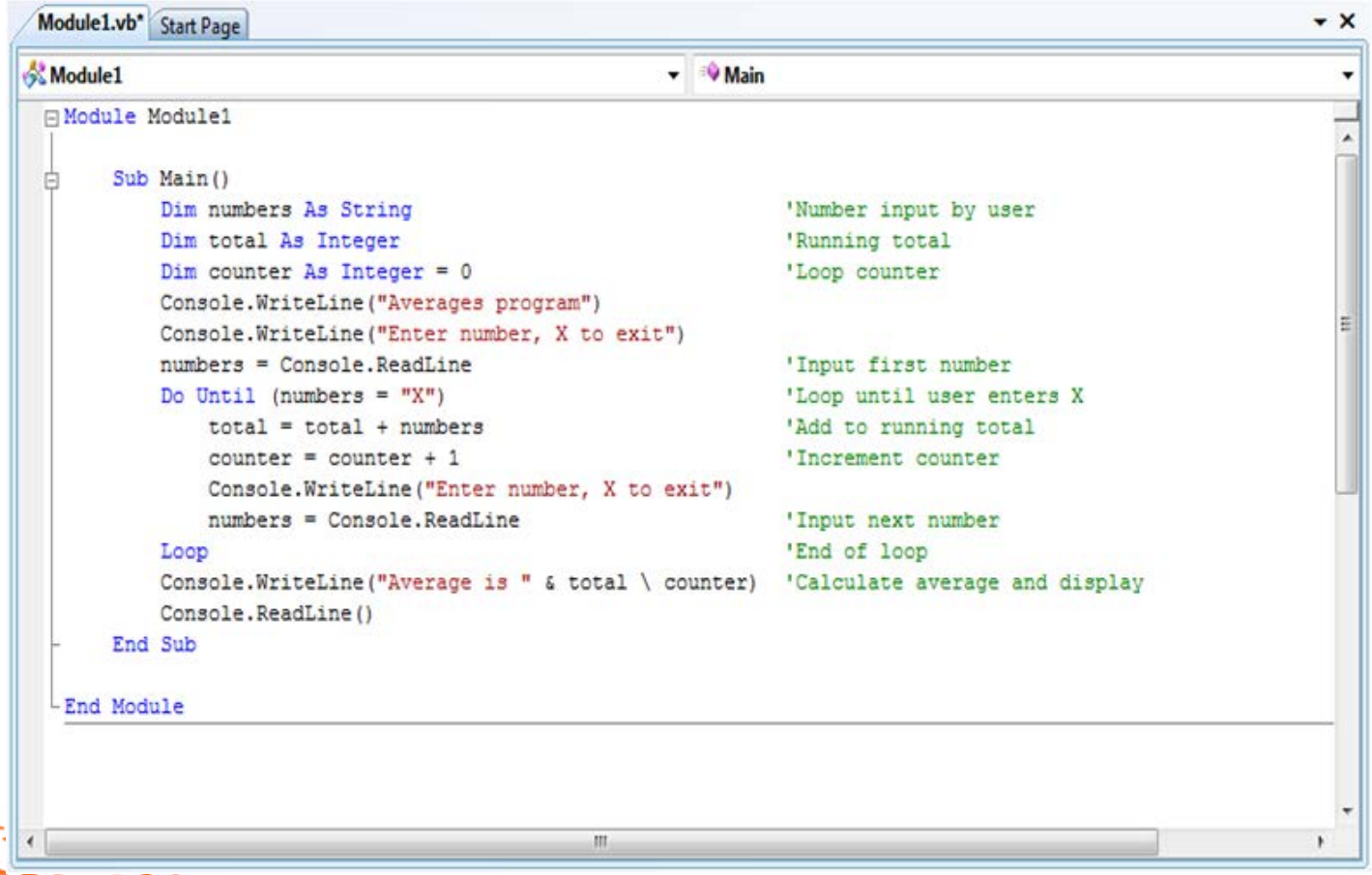
- There are good and bad ways to write programs. Badly written programs might still work but:
  - they are difficult to maintain
  - they are more likely to contain bugs.
- Maintenance updates or bug fixes to a program are often done by someone other than the person who first wrote the program.
- This task is much easier if the code is well written.

Readability

Well written code has:

- **meaningful variable names** which give some clue as to the purpose of the variable.
- **comments**. These are added to explain what the code does, they are ignored by the computer but are very useful for humans.

Readable code



Functions

As well as making the program readable, the programmer should also ensure the program is:

- **robust**. It should not be easy to crash the program. For example, the program should check user input is numeric where a number is expected because if a text input is used in a calculation the program will crash.
- **useable**. It should be easy to use. For example, screen forms should be clearly labelled and logically laid out so the user is not confused.

Quality of code

- **Portability**. In some applications it may be important for the program to run on different hardware and different software environments.
- **Maintainability**. It is important that a program is easy to maintain. This can be achieved by having:
  - well written code
  - detailed technical documentation.