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Chapter 11: Programming techniques

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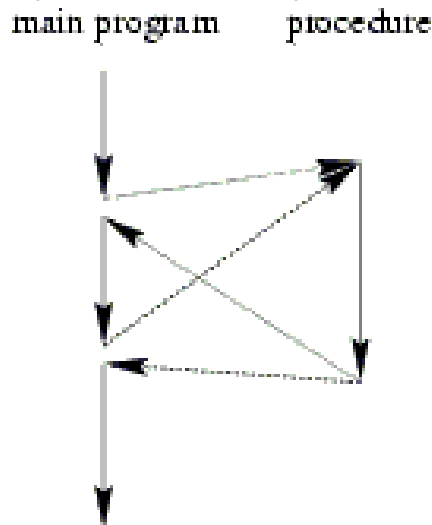## sulastri@ump.edu.my

Programming Languages

- 3 types of programming languages:
  - Machine languages
  - Assembly languages
  - High-Level languages
- 2 main groups of High-Level programming:
  - Structured or Procedural programming
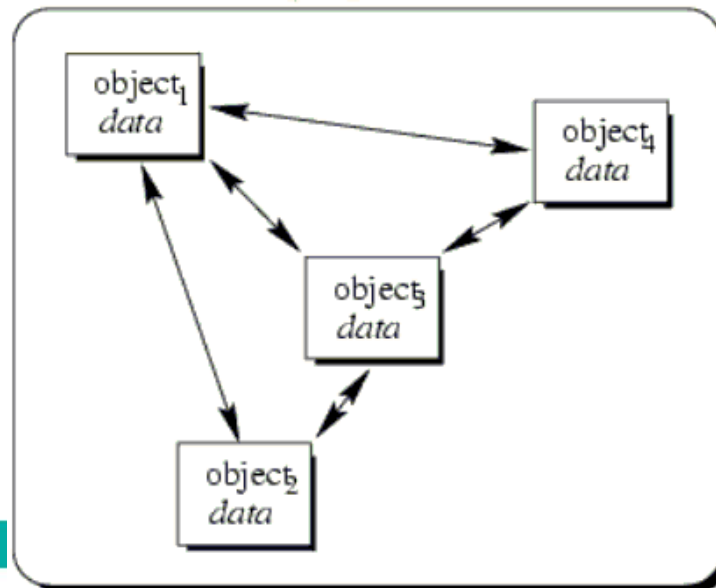 - Object Oriented Programming (OOP)

Procedural/Structured Programming

- Procedural/Structured programming are described as commands that is linear and in-sequence. It emphasize on the structure of the commands.

- Examples of this structural programming include C, HTML, Ruby, COBOL, Fortran, LISP, and many more.

main program   procedure

Object-Oriented Programming

- OOP's emphasis is on modeling the data, not the structure of the language.

- Computer programmers write their codes using data models called classes.

- Examples are C++, Java and Visual Basic.NET

Structured vs. OOP

- The main difference between Structured and OOP is their focus. Structured Programming has hierarchy of programs while, OOP break its task into objects, which are encapsulated with data and methods.

- OOP separates program into a multiple subsystems rather than put it into a hierarchy, hence it is more flexible than

- Although it seems structuring a program provides more clarity, but if there is even a small change to a structured program, it might cause a chain of effect of to multiple sub-programs.