

LESSON NOTES 11

Year/Level: 11 Subjects: Computer Studies

<u>Strand:</u>	CE 2Application package
<u>Sub-strand:</u>	Programming
<u>Content Learning Outcome:</u>	❖ What is a program, programming ❖ Step 1: program specification

Lesson Notes

What is a Program?

A program is a set of instructions for the computer to follow to accomplish the task of processing data into information.

What is Programming?

Programming (also known as Software Development) is a six (6) step procedure for creating a list of instructions for the computer to follow (program). Only one of those processes consists of typing (keying) statements into the computer.

The six steps are as follows:

- Step 1: program specification
- Step 2: program design
- Step 3: program code
- Step 4: program test
- Step 5: program documentation
- Step 6: program maintenance

Step 1 Program Specification

Program Specification is also called *Program Definition or Program Analysis*. In this step, the programmer has to determine the objectives, outputs, inputs, processing requirements and document them. It requires that the programmer – or you, the end user – to complete these tasks procedures. They are:

1. Determining the programs objectives – the first step is to clearly define the problem to solve in the form of program objectives.
2. Determining the desired output – next focus on the desired output considering the required inputs.
3. Determining the input data required – once the outputs are defined, determine the necessary input data and the source of the data.

4. Determining the processing requirements – next, determine the steps necessary to use input to produce output.
5. Documenting the program specifications – the final task is to create a specifications document to record this step's program objectives, outputs, inputs, and processing requirements.

Example

Write program specification of quote given below

As a programmer the company is hiring you to develop a simple BMI calculating program using **VB.Net** using the information provided by the Coordinator. The program should accept the name of the person, height (meters) and weight ((Kilogram). The program should display name, BMI, BMI category and appropriate encouraging comments.

1. **Determining the program objectives:** the first step is to identify how many people is underweight, healthy weight, overweight, or obese.... In this case, to create a BMI calculator will provide information about their weight status.
2. **Determining the desired output:** this step will focuses on the output considering the inputs. $BMI = (\text{weight}/\text{height})$ where, mass is in kg and height is in meters.
3. **Determining the input data required:** in this step, people have to enter the BMI information, which are: their name, height and weight. The necessary inputs should be made to define the output.
4. **Determining the processing requirement:** the body mass index (BMI) is a value derived from the mass and height of an individual, male or female. This is done through coding, which enables the raw data to be turned into information.
5. **Determining the program specification:** the final step is to create a specifications document to record all the steps in objectives, inputs, outputs and processing which is required. It is where all the steps of creating the BMI calculator are required.

Exercise

- 1) Define the term program?
- 2) Another name for program specification?
- 3) Name the fourth step of software development?