ELEMENTS OF COMPUTERS

To many people, the word computer suggests "computation," .... that word means "math," which scares some people, but this connection is ....

Computers are not calculators, although you can turn a computer into a calculator, the simplest definition, a computer is an electronic device-a flexible machine that can manipulate data. Many of these manipulations have nothing to do with math.

A computer is programmable that is, what the computer does depends on the program the computer is using (A program is a list of instructions telling the computer what to do). A computer's hardware – the machine and its components-is designed to be as flexible as possible. By using computer programs, called software, you transform this flexible hardware into a tool for purpose.

No matter which program a computer is using, the machine itself performs only four basic operations. See Figure The most widely accepted definition of the computer includes the following operations.

- **_Input_**: A computer accepts data that is provided by means of an input device, such as a keyboard.
- **_Processing_**: A computer performs operations on the data to transform it in some way.
- **_Output_**: A computer produces output on a device, operations,
- **_Storage:_** A computer stores the results of processing operations for future use.

This definition is often referred to as the **IPOS cycle**. The four steps of the IPOS cycle-input, processing, output, storage-do not have to occur in a rigid I-P-O-S sequence. Under the direction of a program, a computer uses the steps of this process when needed and as often as needed.

The use of a personal computer, a computer designed to meet an individual's computing needs, illustrates these four basic operations. You use the keyboard to input data. The computer's internal circuitry processes the data. You see results (output) on the computer's monitor (the TV-like display), and you can print these results on the Printer. You can also store the results on the computer's internal disk nor on a removable disk. Figure below depicts this relationship.

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FIVE ELEMENTS OF THE COMPUTING PROCESS:

Computer consists of hardware, the physical parts of the computer, and software, the program that tell the computer what to do. Processing data into information (the computing process) involves more elements than just hardware and software. During the computing process, computers integrate the use of five key elements:

- Hardware
- Software
- Data
- People
- Procedure

Hardware: The term hardware refers to the physical parts of the computer. Computer hardware is versatile. The key to a computer's versatility is its memory. Memory is like a temporary workspace.

Software: It is a set of instructions that guide the hardware through its job. Software programs must be written in programming languages.

Data: Computers transform data into information. Data is the raw material; information is processed data. Data is the input to the processing; information is the output.

People: Most computers require people who are called the Users.

Procedure: Procedures are the steps that you must follow to accomplish a specific computer related task.