Binary Code

when numbers letters or word are
After represented by a specific group of
symbol is said that the letter number
or word is encoded.

The group of symbols is called a code,
when in Binary is called binary code.

Advantages of BC

is suitable for computer applications,
Suitable for digital Communications,
They make the analysis and design
of digital circuit when we use binary
codes,

Since 0 and 1 are being used

Implementation becomes easy.

Classification of Binary Code,

1. Weighted codes.
2. Binary code Decima.
3. Alphanumic
4. Error detecting code
5. Error correcting code,

Weighted codes.

These are codes that obeys the positional weight principle. Each position of a number rep a specific weight.

Non weighted codes

- The positional weight are not assigned.
  Two types
  - Excess three.
  - Gray code.

Excess three (XS-3

- It is a non-weighted code that is used to express decimal numbers.
- For you to obtain an excess-3 code. One adds to binary code of $(0011)_2$ to any binary code decimal.

Gray code,

It is non-weighted code and It is not arithmetic.

Meaning there are no specific weight that is assigned to any bit position, it has one specific feature where only one bit will change each time the decimal number is implemented.

Binary Code Decimal
- It is represented by a four bit binary number.
- Each of this's four bits can represent 16 numbers.
- In a bit only the first 10 ~~num~~ of the BCD can be used the remaining 6 numeration are invalid.

Advantages
- Similar to the decimal system
- One will need to remember the binary equivalent of decimal 0-9 only.

Alphanumerical Code.
- Represents numbers and alphabetical characters.
- Therefore an Alphanumerical must repre, of all ~~all~~ atleast 10 digits and 26 letters of the alphabet.

They are three
1. American standard code for informa interchange (ASCII)
2. Extended binary coded decimal interchange code. EBCDIC

- Baud +.

Error Codes
- Error detection code
- Error correction code

Fundamentals of Programming

Program - is a set of instructions following the rules of a certain chosen language. eg PHP, C++, C, Java.

Programming Language.
Is a set of vocal vocabulary rules a set of grammatically rules (syntax) for instructing a computer to perform a certain tasks
- Are used to create comp program.

For you to use a programming language, must be converted to machine language so that a computer can understand it. Two ways, eg
- Compile the program
- Interpret the ,,

Compiler.
- Converts the full code (source code) into object code.
- Tool used is called a compiler

- The compiler reads the whole code and translates it into a machine code

Interpreter.
- Converts/reads source code one line at a time and converts this line into machine code and ~~exec~~ executes it.

Computer Programming
This a process of writing, testing, debugging or troubleshooting and maintaining source code of computer programs.

Who is a Programmer.
- A person who writes computer program.

Skills to be a programmer.
1. You must have good communication skills
2. Reading and comprehension skills.
3. Critical thinking.
4. Knowledge of computer and electronics
5. You need mathematics
6. Knowledge of numbers and calculations is required.
7. Information organisation.

Generation of Programming language
i) 1st generation (low level language)
(Binary coding)
These low level languages.

ii) 2nd generation (

iii) Third generation (High level language)

ii) Fourth Generation
   - Sentimental statements similar to human langu
   -

iv) Fifth Generation Language.

Types of Programming Language.

1. Machine Language.
2. Assembly Language
3. High level language.

* Comparison btn the languages.