**Programming Language Fundamentals:**

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Languages are used for the interactions.

-> Languages are classified into two types:

 1) Natural Languages

 2) Programming Languages

-> Natural Languages can be used to for the interaction between users/human

Ex: Telugu, Hindi, English, etc.

-> When a person want to interact with a computer/machine, we can use "programming languages".

-> Programming languages are classified into three types:

 1) Binary Languages

 2) Assembly Language

 3) High level Language

**Binary Language:**

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-> from early 1960's the computer is available for us.

-> Super computer can understand only two digits:

 1 and 0

-> When an instruction can be write in 1's and 0's called as "binary instruction".

Ex: A 65

According to the standard ASCII (American Standard Code Information Interchange), the characters can be numbered:

 0 to 9 ==> 48 to 56

 A to Z ==> 65 to 90

 a to z ==> 97 to 122

-> if you want to send a letter 'A' to the computer:

 A => 1000001 (binary code)

-> Writing of binary code (machine instruction) for each and every letter is really difficult for humans. That is the reason binary languages are not in demand in the market.

**Assembly Language:**

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sum of two numbers ==> add a b

sub, mul etc.

-> Assembly languages are with some predefined token and words.

With these we can able to develop anything easily.

-> When an application want to develop in one processor this may or may not extend to another processor.

That we need to develop any application uniquely from processor to processor.

**High Level Languages:**

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#include<stdio.h>

void main(){

 printf("Hi");

}

-> Platform independent

-> processor independent

-> User friendly languages

Ex: C, C++, Java, Python etc.

Translators:

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Kind of software

 Translate the code from one form to another form

High level =======> machine level

-> three types:

 1) Assembler

 2) Compiler

 3) Interpreter

Q: DO WE ABLE TO DEVELOP ANY CODE USING ENGLISH/TELUGU/URDU/HINDI?

No, because these languages does not have translators.

How we can write programs using any language?

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Program:

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 Collection/set of instructions.



=> to write any program using any programming language:

 we have to use five types of statements and 5-types of tokens:

 1) Input Statement

 2) Output Statement

 3) Control Statement

 4) Memory Statement

 5) Arithmetic and Logic Statement

==> 5-types of Tokens are:

 1) Keywords

 2) Identifiers

 3) Literals

 4) Operators

 5) Strings