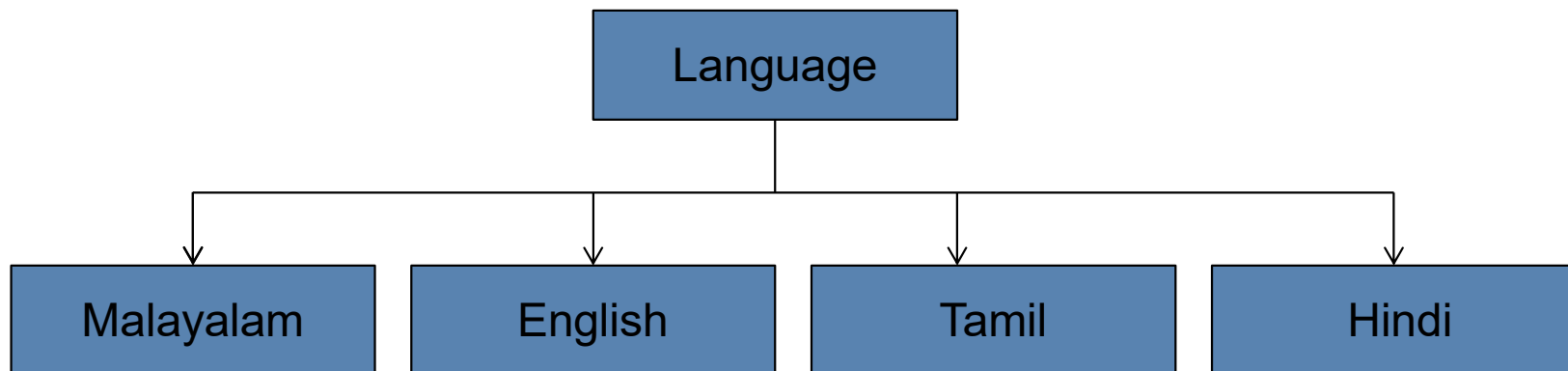




C programming language

Language

- .Language is a mode of communication that is used to share ideas, opinions with each other
- .Language is a communication tool or medium of communication to convey our thoughts
- .Data transfer or information transfer
- .Malayalam,English,Tamil,etc.





Malayalam

- .56 letters
- .Grammar
- .Set of rules

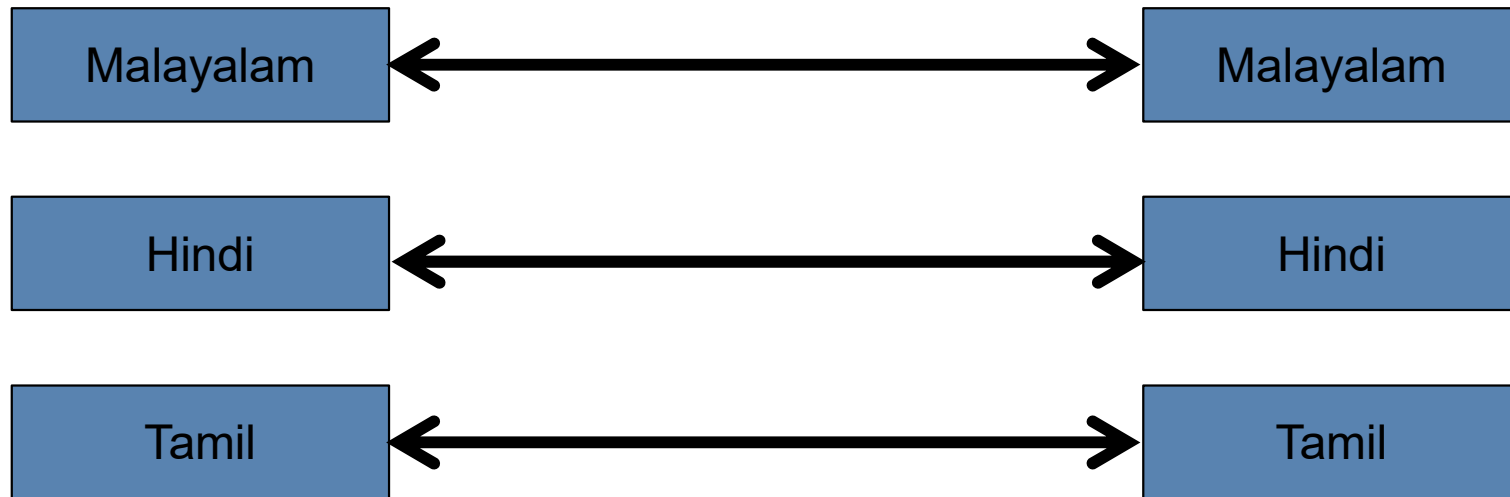
English

- .26 letters
- .Grammar
- .Set of rules

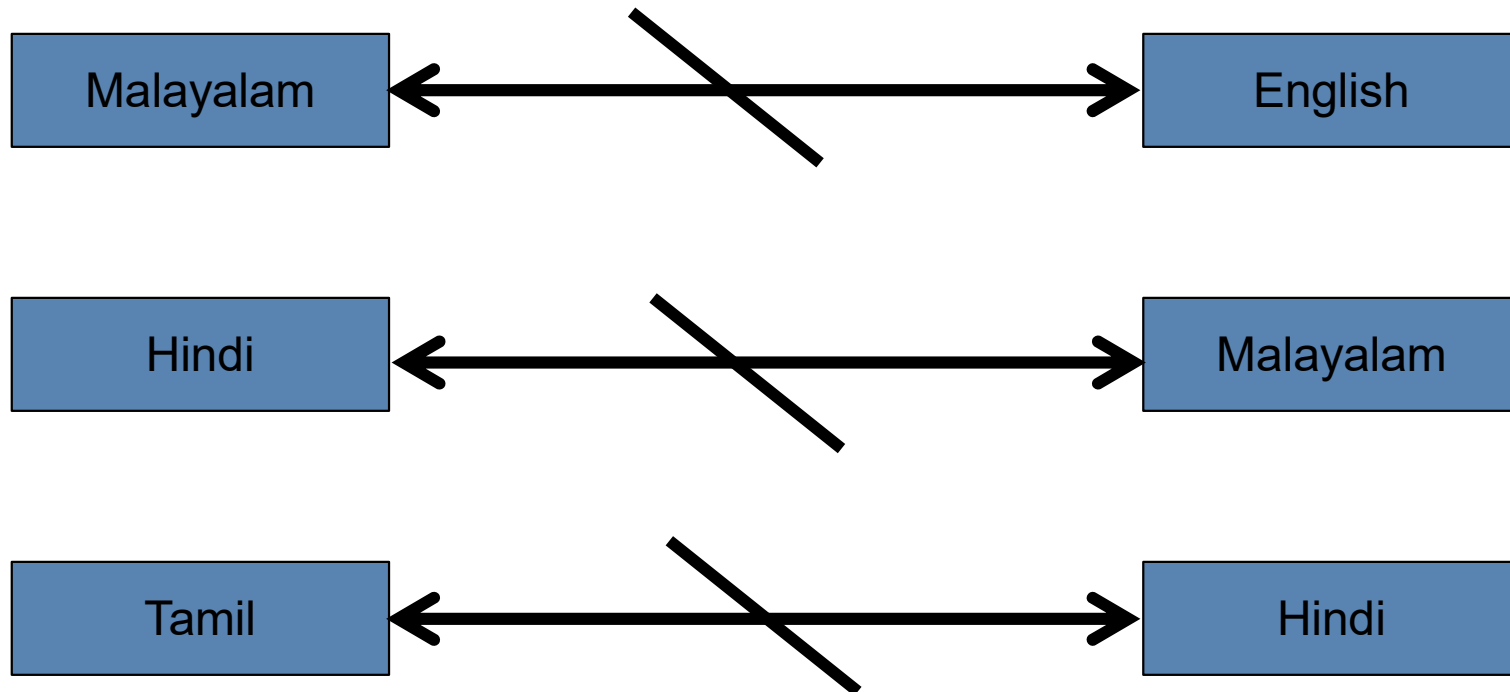
Hindi

- .52 letters
- .Grammar
- .Set of rules

- .Different grammar
- .Different set of rules
- .Numbers of letters or symbols are different



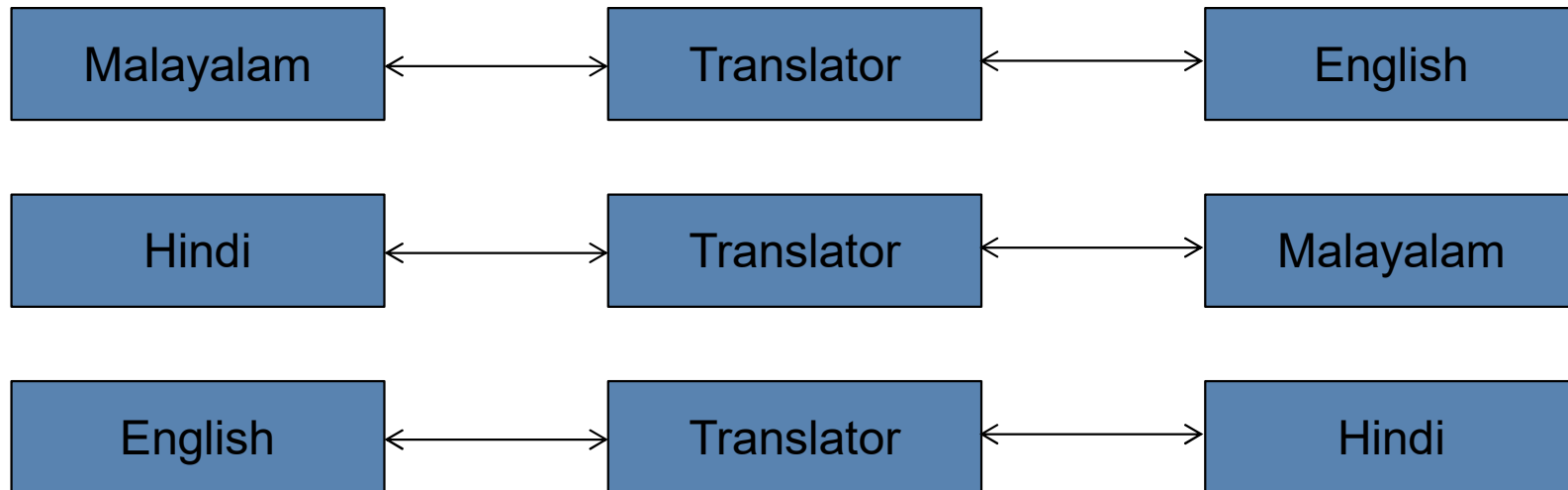
.If both are same language communication is possible



.If both are different language communication is not possible

Translator

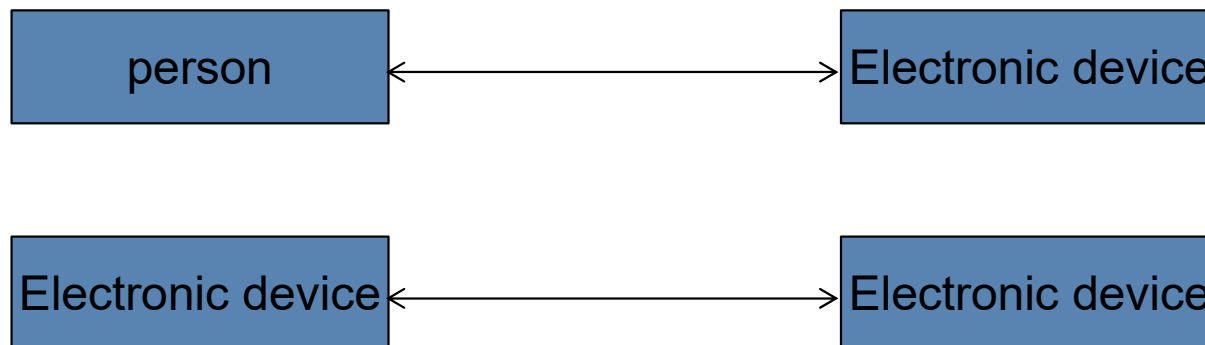
a person who translates from one language into another



- .If both languages are different we use translator
- .Translator know both languages

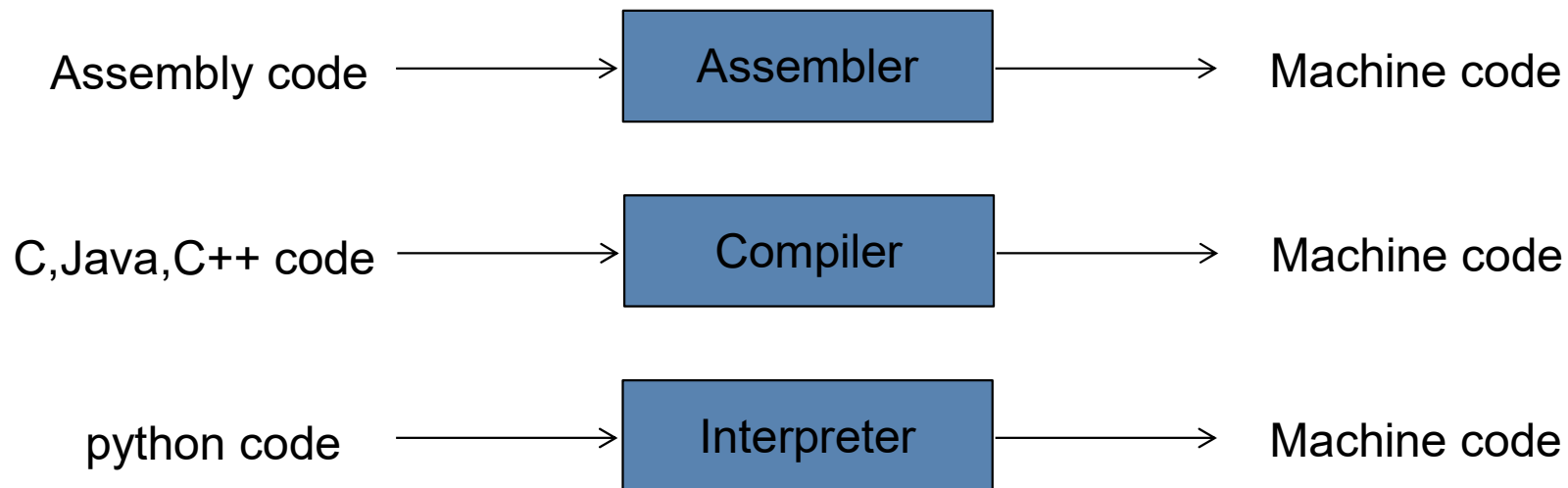
Programming language

- .A programming language is a computer language that is used by programmers (developers) to communicate with electronic devices.
- .Between person(programmer)and electronic device;
- .Between electronic devices.
- .(0's and 1's)are the language of electronic devices.

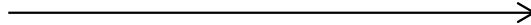
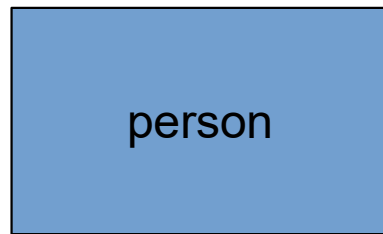


Programming language translators

.A translator is a programming language processor that modifies a computer program from one form to another



Why programming language





Touch screen

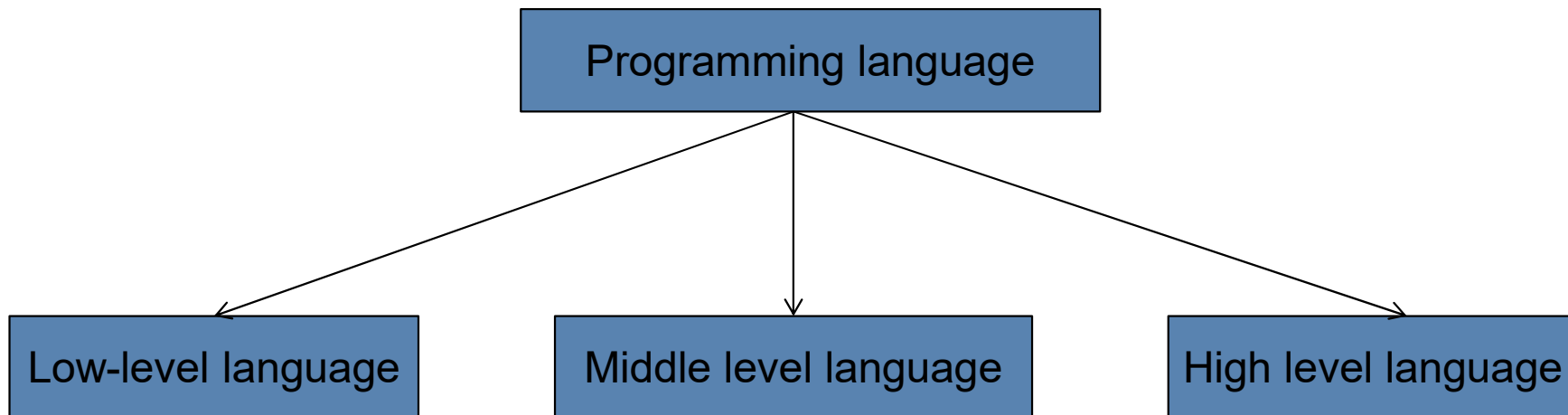


Keypad

- HMI(Human Machine Interface Device)
- Both are programmed to do specific task

Types of programming languages

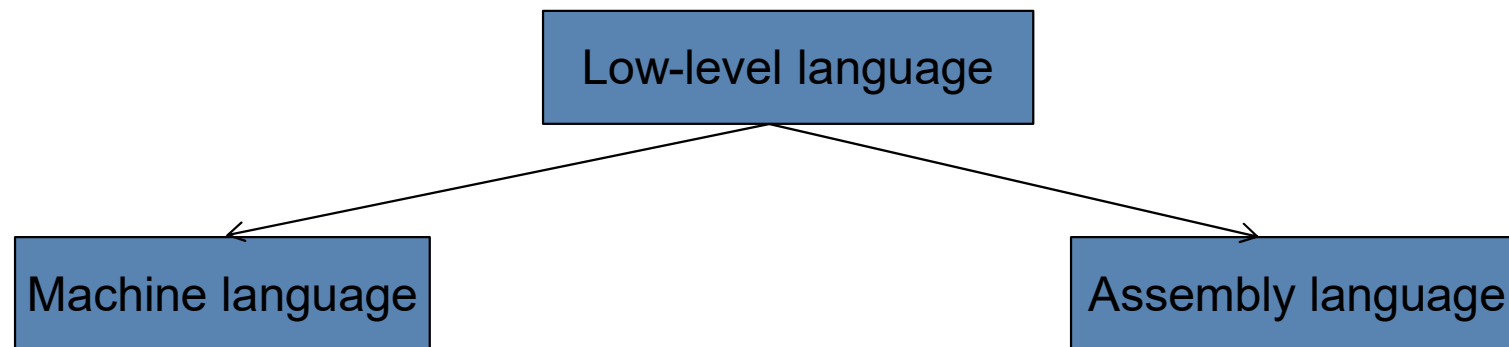
.The programming languages are broadly classified into three types



Low-level language

- .It is machine-dependent.
- .It works based on the binary number 0's and 1's.
- .The processor runs low-level programs directly without the need of a compiler or interpreter.

Low-level language is further divided into two parts





Machine Language

- .Machine language is also called machine code or object code.
- .Machine language is easier to read because it is normally displayed in binary or hexadecimal.
- .It does not require a translator to convert the programs because computers directly understand it.

Assembly Language

- .Assembly language is designed for specific processors.
- .It represents the set of instructions in a symbolic and human-understandable form.
- .It uses an assembler to convert the assembly language to machine language.



Middle-level programming language

- .Middle-level programming language lies between the low-level programming language and
- .It is also known as the intermediate programming language and pseudo-language.
- .A middle-level programming language's advantages are that it supports the features of high

High-level programming language

- .High-level programming language (HLL) is designed for developing user-friendly software p
- .This programming language requires a compiler or interpreter to translate the program into
- .Example: Python, Java, JavaScript, PHP, C#, C++, etc

Difference between compiler & interpreter

compiler

- Compiled language
- Object code
- 4step
 - *preprocessing
 - *compiling
 - *Assembler
 - *linking
- Converting before program execution
- Fast
- No recompile
- List of errors


interpreter

- Interpreted language
- No object code
- Interpreting
- While program execution
- Slow
- Re interpretation
- Line of errors




History of C

- .Dennis Ritchie
- .1972
- .Bel laboratory
- .DEC PDP 11(Test computer)
- .DEC(digital equipment cooperation)
- .PDP(programmed data processor)
- .11(11th generation)
- .16 bit operating system
- .C was originally developed to beat the issues of previous
- .Language such as B,BPCL



Fortran	.Fortra1st language .numeric&scientific calculation .1950(IBM)
A	.1960 .International group
BCPL	.1967 .Martin Richard
A	.1960 .International group
B	.1970 .Ken Thompson
C	.1972 .Dennis Ritchi



K&RC	.1978 .Kernighan&Dennis Ritchie
ANSIC	.1989 .ANSI committee
ANSI/ISOC	.1990 .ISO committee
C99	.1999 .Standardization committee
K&RCC11	.2011 .Standardization committee
C17	.2017 .Standardization committee



Features of C

- .High level language
- .Middle level language
- .Small programming language(32 key words)
- .Core or Mother language
- .Portable source code
- .C is platform dependent
- .Pointer
- .C mainly used in embedded system
- .Compiled language
- .Case Sensitive
- .Structured language
- .Dynamic memory allocation
- .Libraries rich