

# DOCUMENTATION

## Different Errors-

- Empty Source
- Duplicate label
- Invalid Assembly opcode
- Undefined labe
- Undefined Symbol
- Directive statement missing
- Wrong Parameters

Note - Assembly code after `//'` will be treated as comment

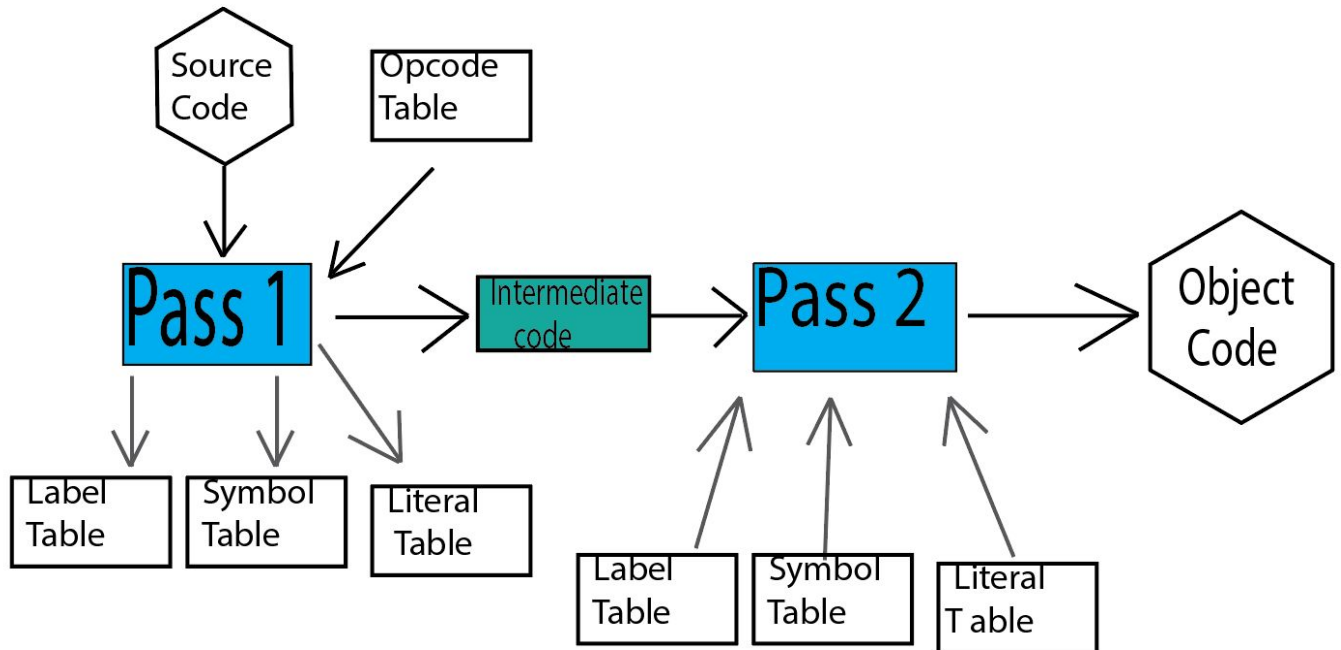
## Instructions to Use-

- Extract the project file on Desktop of your computer in a folder named "assembler".
- Check the Opcode file
- Change the Input file for which you want to run the assembler

## Data Structure used-

- LinkedHashMap<String,String> for Symbol table where key is the Symbol and value is the location of that Symbol
- LinkedHashMap<String,String> for Label table where key is the Label and value is the location of that label definition in the code
- LinkedHashMap<String,String> for Literal table where key is the Literal and value is the location of that Literal
- LinkedHashMap<String,String> for Opcode table where key is the Opcode and value is its assembly opcode.
- Integer Program counter

# Two Pass Assembler Working



In first pass source code is fetched to the programme with the opcode and their corresponding meaning. Lines are fetched one by one from the source code and according to which symbol table, literal table and label table is prepared. After the first pass, address mapping of variables are done. An Intermediate code is generated after the first pass, if there are no errors encountered then second pass is executed where with the help of the table created, object code is generated.