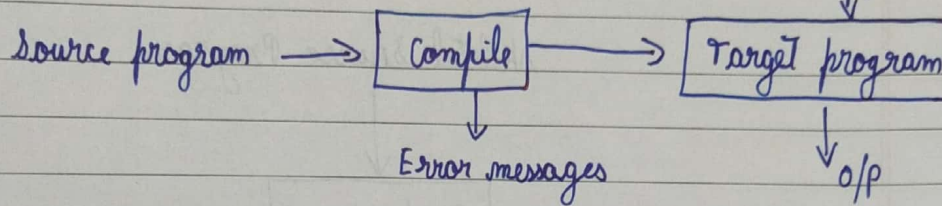


## Compilers & Interpreters :

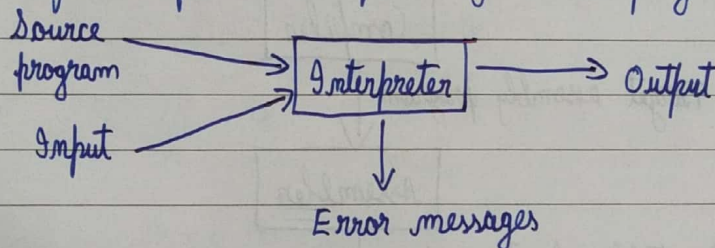
### • "Compilation"

- Translation of a program written in source language into a semantically equivalent program written in a target language.



### • "Interpretation"

- Perform operations implied by source program.



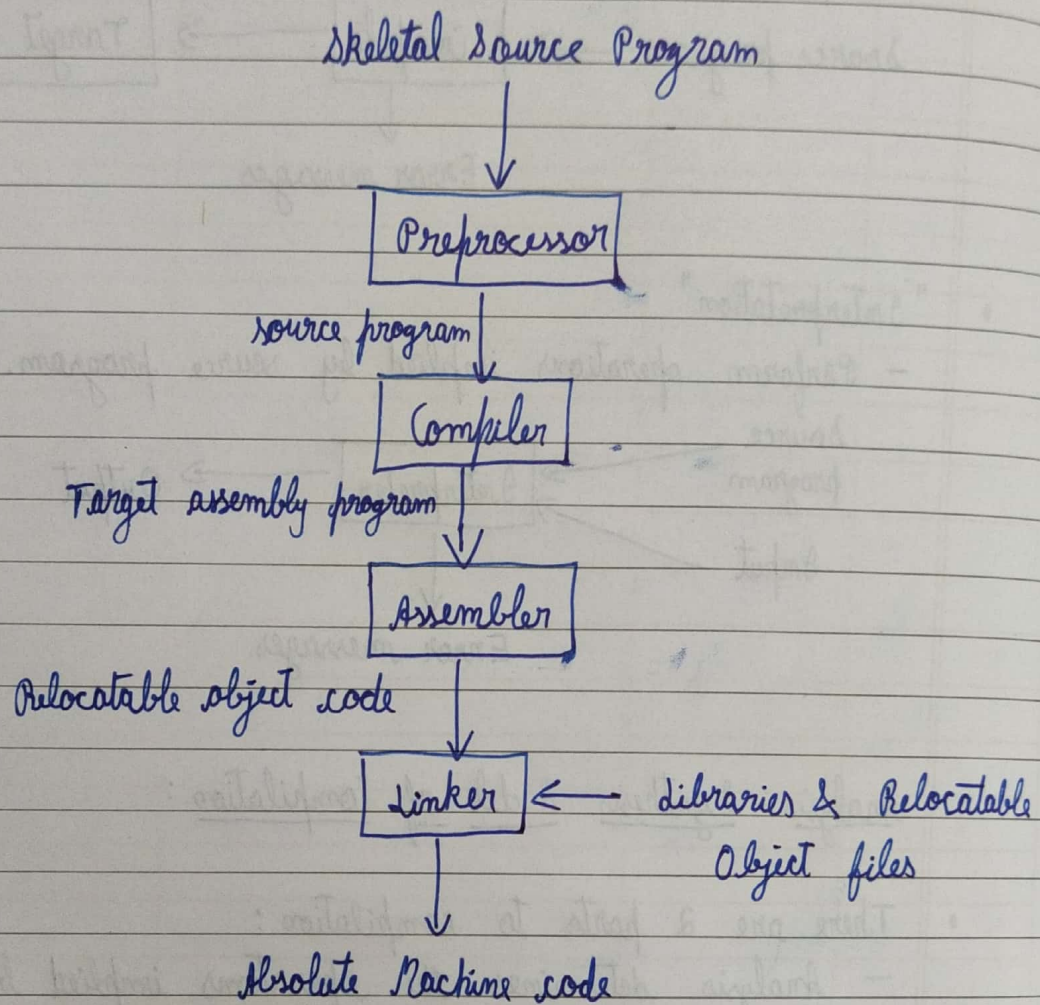
## Analysis - Synthesis Model of Compilation :

- There are 2 parts to compilation :
  - Analysis determines the operations implied by the source program which are recorded in a tree structure.
  - Synthesis takes the tree structure & translates the operations therein into the target program.

## Other tools that use Analysis - Synthesis Model :

- Editors (syntax highlighting)
- Pretty printers (eg: doxygen) - helps to standardize layout of program.
- Static checkers (eg: lint & splint) - correctness of various program constraints.

- Interpreters
- Text formatters



### Grouping of Phases:

- **Compiler front & back ends:**
  - Analysis (machine independent front end)
  - Synthesis (machine dependant back end)