

# CSE 340

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# Attendance

[Google sheet link](#)

**What??**

**Why??**

**How??**

# Recitation-1

# **Assemblers, Compilers, Translators, Interpreters**

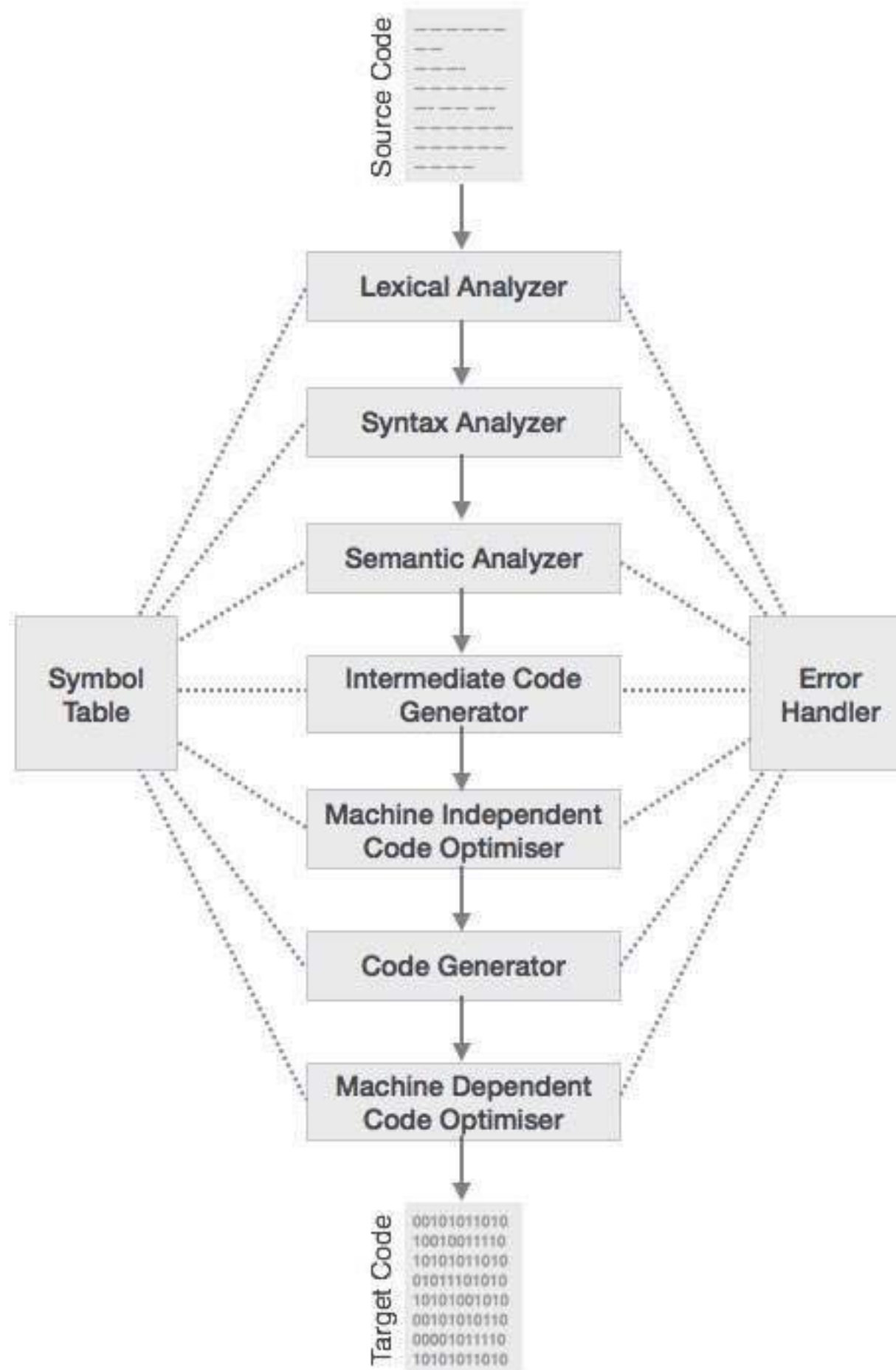
**C++ builder, GCC, Intel C++, Visual C++ Express**

**Syntax Analyser - Parser**

# First Project

Build a simple Compiler!





# Compiling on Linux

You will be using Ubuntu 18.04/18.11 for this course.

If you use another OS, you can download/install a VM and test your code

Recommendations:

- VirtualBox
- Vagrant (uses virtualbox)(comes with presets which make developing easier e.g. shared folders with host OS, ssh etc)
- Docker (uses jail i.e. not really virtualization)

Programming Languages: C/C++

## Compiling your code

The gcc program compiles C code while the g++ program compiles C++ code

*To compile:*      **\$ g++ myFirstProgram.cpp -o a.out**

*See your output:*      **\$/a.out**

## Redirecting I/O

To redirect input from a text file:

```
$ ./a.out < input_file.txt
```

To redirect the output of a program to a text file:

```
$ ./a.out > output_file.txt
```

It will do 2 things:

- a. Create a new file output\_file.txt, if it doesn't exist
- b. Writes the output of program in output\_file.txt. If file already exists and there is some content, it will overwrite it.

\*output of program will not be displayed on the Terminal.

**To append the content** instead of overwriting it, use >> operator for appending instead of overwriting the file.

```
./a.out >> output_append.txt
```

You can have both input and output file in single command

```
./a.out < input_file.txt > output_file.txt
```

## Using Pipes:

| can be used to pipe input and output

```
./get_input.out | ./a.out
```

The output of get\_input is fed as input to next file. It will process that input and give the final output.

# Testing your output

There's a shell script provided to you to test your code. You might be provided with test cases

```
./test.sh
```

- Test cases are stored in the `tests` directory. The expected output and given output are matched by a diff.
- Make sure you don't output comments
- Shell scripts require execution permissions: `sudo chmod +x test.sh`