BRAC University Competitive Programming Workshop

Handouts for Day 1

Mubasshir Chowdhury

Department of CSE
BRAC University
9 April 2025

Setting up Compilers for Competitive Programming

Java

On windows

Download and install jdk. After installation open Windows Terminal or Command Prompt and type

```
java --version
```

If you get something like

```
java 21.0.6
```

Or any other version, then it is properly installed. Otherwise you need to add java to path environment variable. To do that, find where java is installed. By default it should be in

```
C:\Program Files\Common Files\Oracle\Java\javapath\
```

unless you have changed it during installation.

Go to, control panel, search for "edit environment variables". Click on "Edit the System Environment Variable", Click "environment variable". Under user variables, double click on path, click new and paste the java path. Click Ok, and reopen command prompt/terminal and write java –version. It should work properly now.

On ubuntu

Write this on terminal to install java.

```
sudo apt update
sudo apt install openjdk-21-jdk
```

To compile a java code (both on windows and ubuntu), write the following in command prompt (make sure you are in the same directory)

```
javac filename.java
```

And then to run it, use :

```
java filename
```

C++

C++ compiler gcc is preinstalled in ubuntu.

Follow this article to install gcc on windows.

To compile a c++ code, write the following in command prompt/terminal (make sure you are in the same directory)

```
g++ -o filename filename.c
```

And then to run it (on windows), use :

```
filename
```

And on ubuntu, use :

```
./filename
```

Python 3

On Windows

Download and install python3. Make sure to check "Add python3 to path" then click "Install Now". After installation open Windows Terminal or Command Prompt and type

```
python --version
```

If you get something like

```
python 3.13.3
```

Or any other version, then it is properly installed.

To run a python code on windows, write the following in command prompt (make sure you are in the same directory)

```
python filename.py
```

On Ubuntu

Write this on terminal to install python3.

```
sudo apt update
sudo apt install software-properties-common
sudo add-apt-repository ppa:deadsnakes/ppa
sudo apt update
sudo apt install python3.13
```

To run a python code on ubuntu, write the following in terminal (make sure you are in the same directory)

```
python3 filename.py
```

Setting up an IDE

We will show setup of Sublime text 3. You can use any editor of your choice.

Installation

Download and install sublime text 3 on your os.

Create new file with Ctrl + n, then press ctrl + s to save it. Give it a name and end with filename extension. (For example hello.java, hello.c or hello.py).

To compile and run your code, see the "Setting Up compilers" section.

Or alternatively, you can compile directly inside sublime by using build-systems.

Goto Tools - Build Systems - New Build Systems and paste the following according to your language.

C++

```
{
    "shell_cmd": "g++ --std=c++17 \"${file}\" -o
    ↪  \"${file_path}/${file_base_name}\" &&
    ↪  \"${file_path}/${file_base_name}\" <in.txt >out.txt"
    "file_regex": "^(..[^:]*):([0-9]+):?([0-9]+)?:? (.*)$",
    "working_dir": "${file_path}",
    "selector": "source.c++",
}
```

Java

```
{
    "cmd": ["javac", "${file_name}", "&&", "java", "${file_base_name}
    ↪  <in.txt >out.txt"],
    "file_regex": "^[ ]file \"(...?)\", line ([0-9]*)",
    "path": ["C:\\ProgramData\\Oracle\\Java\\javapath"],
    "selector": "source.java",
    "shell": true
}
```

Python3 (Note: On windows use python instead of python3)

```
{
    "shell_cmd": "python3 -u \"$file\" <in.txt >out.txt",
    "file_regex": "^[ ]*File \"(...*?)\", line ([0-9]*)",
    "selector": "source.python",

    "env": {"PYTHONIOENCODING": "utf-8"},
}
```

Then save the file and give it any name ending with ".sublime-build".

On sublime, goto View - Layout - Grid 4. Then click on the bottom left grid and goto View - Group - Close Group.

Then click on the top right panel and create a new file and save it as in.txt. And on the bottom right panel, create out.txt.

Then you can write the input of your code directly on in.txt. Press Ctrl + Shift + B. Select the sublime-build you wrote. Then you will see the output on out.txt.

After doing the step once, you can just press Ctrl + B to compile and run your code.

Setting up WSL for Competitive Programming

Windows Subsystem for Linux allows users to use linux distros such as ubuntu, arch or kali linux inside windows without dual booting. We can edit our code in editors installed on windows but compile the code in linux to get best of both worlds.

Make sure your windows version is **Windows 10 version 2004 and higher (Build 19041 and higher).**

Follow this video for installing wsl.

Alternatively, you can follow this article.

It's recommended to use ubuntu. Download the latest stable build (LTS) available.