

Part 1

1. Three steps:
 1. Compilation - Translate source code to assembly code which the system's CPU can use.
 2. Assembly – Translate assembly code to machine language
 3. Linking – Connects machine code for a program to other programs or libraries.

2. Version 4.8.4 of gcc, as reported by `gcc --version`

```
faysal@DESKTOP-A0GE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity5$ man gcc
faysal@DESKTOP-A0GE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity5$ gcc --version
gcc (Ubuntu 4.8.4-2ubuntu1~14.04.3) 4.8.4
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This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

Part 2 (#3)

Sample Output

```
faysal@DESKTOP-A0GE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity5$ cat file1.in
abcdef
123456
xyz
lmnop
this is gonna be different
faysal@DESKTOP-A0GE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity5$ cat file2.in
abcdef
123456
xyz
lmnop
this is surely gonna be different
faysal@DESKTOP-A0GE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity5$ ./compare file1.in file2.in
Difference found at line number 5:
    Text of file 'file1.in':
        this is gonna be different
    Text of file 'file2.in':
        this is surely gonna be different
faysal@DESKTOP-A0GE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity5$
```

compare.c

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>

#define SIZE 100

/*
 *chomp makes sure there is a null terminator at the end of each line
 */

void chomp(char * ptr) {
    while(*ptr != '\n') {
        ptr++;
    }
    *ptr='\0';
}

int main(int argc, char *argv[]) {
    FILE *infile1, *infile2;
    char buffer1[SIZE];
    char buffer2[SIZE];
    int i = 1;

    infile1 = fopen(argv[1], "r");
    infile2 = fopen(argv[2], "r");

    int f1 = fgets(buffer1, SIZE, infile1);
    int f2 = fgets(buffer2, SIZE, infile2);

    while ( f1 || f2 ) {
        chomp(buffer1);
        chomp(buffer2);
        if (strcmp(buffer1, buffer2, SIZE) != 0) {
            printf("Difference found at line number %d:\n", i);
            printf("\tText of file '%s':\n\t\t%s\n", argv[1], buffer1);
            printf("\tText of file '%s':\n\t\t%s\n", argv[2], buffer2);
            break;
        }
        f1 = fgets(buffer1, SIZE, infile1);
        f2 = fgets(buffer2, SIZE, infile2);

        i++;
    }

    fclose(infile1);
    fclose(infile2);

    return 0;
}
```