Embedded Systems Lab

C Programming Exercises

1. Write the C hello world program code to print “hello world” using the c programming language. This program prints hello world, printf library function is used to display text on screen, '\n' places cursor on the beginning of next line, stdio.h header file contains declaration of printf function.

2. Write the C program to check leap year: year will be entered by the user.

3. Write a program that reverses a string entered by the user. For example if a user enters a string "hello world" then on reversing the string will be "dlrow olleh". Implement 2 different methods to reverse string the first one uses strrev library function of string.h header file, second without using strrev.

How to compile and run a C code in Linux:

1. Install C/C++ compiler and related tools
   a. `$ sudo apt-get update`
      `$ sudo apt-get install build-essential manpages-dev`
   b. Verify installation
      `$ whereis gcc`
      `$ which gcc`
      `$ gcc –version`
2. Create file with the C program inside, save it, use any of the following syntax to compile the program

```
a. cc program-source-code.c -o executable-file-name
b. gcc program-source-code.c -o executable-file-name
c. ## assuming that executable-file-name.c exists ##
        make executable-file-name
```

3. If there is no error in your code or C program then the compiler will successfully create an executable file called demo in the current directory, otherwise you need fix the code. To verify this, type:
   `$ ls -l demo*`
4. To execute the program run:
   `$ ./demo`