ITCS 201 – Fundamentals of Programming
Lecture 1: Lab Assignments

Non-coding Submission (lab1,2 and 4):

- Ask instructors or LAs in the lab to check for correctness
- Only be marked in the lab exercise (i.e., no need to submit to PC^2 or MyCourse)

Coding Submission (lab 3):

- **PC^2:** Make sure your codes pass all of the test cases
- **MyCourse:** Zip all of your codes in u6288xxx.zip

Lab 1: Write an algorithm as a flowchart on paper to solve the following problem.

a. Compute the minimum of the three input numbers.
b. You have a 100-baht banknote and you would like to buy a drink from a vending machine. The vending machine has four drink available for you to choose: still water – 15 baht, coca-cola – 25 baht, green tea – 75 baht, coffee – 100 baht. Determine the change will you get from the machine when you buy one of these four drinks.

Submit the Flowchart diagram to lab assistance for checking.

Expected output:

Flowchart diagrams.

Lab 2: Create an `exercise` directory that has the following structure:

```
exercise
├── documents
│   ├── cv.pdf
│   ├── driving_license.jpg
│   └── portfolio.pdf
├── downloads
│   ├── report1.txt
│   └── report2.txt
└── pictures
    ├── profile.png
    ├── screenshort
    │   ├── img01.jpg
    │   ├── img02.jpg
    │   ├── img03.jpg
    │   ├── IMG_19809812.jpg
    │   ├── IMG_1987.jpg
    │   ├── IMG_581.jpg
    │   └── IMG_91712.jpg
    ├── selfie
    │   ├── ss1.png
    │   └── ss2.png
    └── travel
        ├── london-2019
        │   └── group1.jpeg
        └── paris-2017
            └── panorama.png
```

Note: The files inside sub-directories can be created with `touch` command (i.e., creating a dummy empty file for any format). For example, the following command can be used to create a dummy image file:

```
$ touch image.jpg
```

Also, you can download any images, files, etc. from the Internet and rename them to be the same as specified above. We only consider the directory structure, not the contents in each file.

Expected output:

The "`exercise`" directory with the structure specified above.

Lab 3: Open `Visual Studio Code` and create a new file, named `"example.c"`. Next, write a simple program to print `"Hello World!!"`. Then compile the `"example.c"` using GCC via command line. Finally, run the executable file via command line.

Hint:

- Compile the C file using GCC

```
gcc <filename>.c -o <filename>
```

- Run the program

```
./<filename>
```

Expected output:

Lab 4: Go to the website http://lightbot.com/flash.html

Expected output:

Play the game until you finish the “Basics” level.