**CSC3320 System Level Programming**

**Homework 1 KEY (44 points)**

**Part I: Answer the following questions** (12 points in total)

1. 3 points

* Shell is a commands interpreter.
* Kernel is a low level program interfacing with the hardware.
* API is the defined as an interface when writing codes using libraries.

2. 3 points

* File is a collection of data normally stored on disk.
* Program is a collection of instructions/data that is stored.
* When a program is executed, it is loaded into memory. It is called a process when it is executing.

3. 3 points

Pipe mechanism

* Output of one process can be used as input for another process.

Super user

- User who has complete control over the system resources.

4. 3 points

* Sharing of resources
* Communication
* Utilities
* Programmer support

**Part II: Regular Expression**

1. Multiple choices (20 points in total, 2 points for each)

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| --- |
| **Grading criteria:**   * The choices are the same as answer **2 points** * The choices are right but miss some selections **1.5 points** * The choices contain one or more right selections but also have wrong selections **1 points** * All the choices are wrong **0 point**   *e.g. Answer is BE*  *if you choose BE, you will gain 2 points*  *if you choose B, you will gain 1.5 points*  *If you choose BD, you will gain 1 point*  *If you choose CD, you will gain 0 point* |

(1) BE

(2) AE

(3) ABD

(4) ACD

(5) C

(6) AC

(7) B

(8) BD

(9) AB

(10) ABD

2. Write down the regular expression for following questions (12 points in total, 3 points for each):

(1) http:\/\/.\*

(2) [0-9]{3}-[0-9]{2}-[0-9]{4}

(3) [a-z0-9-\.]+@[a-z0-9-]+\.(com|net)

(4) \(?[0-9]{3}\)?-[0-9]{3}-?[0-9]{4}