## Instructions:

**Write the answer to each question below the question in the space provided.**
**You can "wrap-around" the answer on separate lines if you need more space.**

## Part A: Display Results from Linux Commands using Regular Expressions

Note the contents from the following tab-delimited file called **~uli101/numbers.txt:**
**(this file pathname exists for checking your work)**

```
+123
---34
++++++++++17
-45
45p8
25.6
11
```

**Write the results of each of the following Linux commands (complex and/or extended regular expressions) for the above-mentioned file.**

**1. `grep "^[-+]" ~uli101/numbers.txt`**
**->**
**+123**
**---34**
**++++++++++17**
**-45**

**2. `grep "^[-+]*.[0-9]" ~uli101/numbers.txt`**
**->**
**-45**
**25.6**

**3. `grep "^[+-]?[0-9]" ~uli101/numbers.txt`**
**->**
**+123**
**---34**
**++++++++++17**
**-45**
**45p8**
**25.6**
**11**

**(why?)**
This command searches for lines that start with either a plus (+) or minus (-) sign, followed by an optional sign and at least one digit.

---

**4.** `egrep "^[+-]?[0-9]" ~uli101/numbers.txt`

**->**
**+123**
**---34**
**++++++++++17**
**-45**
**45p8**
**25.6**
**11**

**(continued on next page)**

**5.** `egrep "^[+-]?[0-9]+$" ~uli101/numbers.txt`

```
->
+123
++++++++++17
-45
11
```

**6.** `egrep "^[+-]?[0-9]+[.]?[0-9]+$" ~uli101/numbers.txt`

**->**

+123
-45
25.6

## Part B: Writing Linux Commands Using Extended Regular Expressions

**Write a single Linux command to perform the specified tasks for each of the following questions.**

1. **Write a Linux command to display all lines in the file called ~/data.txt that begins with 1 or more occurrences of an UPPERCASE letter.**
   **-> grep "^[[:upper:]]\+" ~/data.txt**

2. **Write a Linux command to display all lines in the file called ~/data.txt that ends with 3 or more occurrences of the number 6.**
   **-> grep "[6]\{3,\}$" ~/data.txt**

3. **Write a Linux command to display all lines in the file called ~/data.txt that begins with 2 or more occurrences of the word "the" (upper or lower case).**
   **-> grep "^\(the \)\{2,\}" ~/data.txt**

4. **Write a Linux command to display all lines in the file called ~/data.txt that begins with 2 or more occurrences of the word "the" or the word "but" (upper or lower case).**
   **-> grep -E "^(the|but) " ~/data.txt**

5. **Write a Linux command to display all lines in the file called ~/data.txt that begins with a minimum of 2 occurrences and a maximum of 4 occurrences of the word "the" or the word "but" (upper or lower case).**
   **-> grep -E "^(the|but)( (the|but)){1,3}" ~/data.txt**