

**Hunter Poole**  
**CSCI 155 HW5, Problem 1**

Problem recap skipped due to length of problem.

Three Step Analysis:

- A. Take any character as input. Return the entered character and its ASCII value.
- B. Determine if the entered character is upper case, lower case, 0-9, or other. Store that info.
- C. Return the next two characters
- D. Loop until # is entered. Then return a table for the count of each character type.

| INPUT     | OUTPUT  | EQUATIONS  |
|-----------|---|--|
| Any char  | The same char   | <b>do...while</b> (Ch != '#')  |
| # to quit | Char's ASCII value  | <b>if</b> (Ch != '#')  |
|           | Next two characters (from input char)                           | <b>if</b> (Character.isUpperCase(Ch))<br>Uppercase++<br><b>else if</b> (Character.isLowerCase(Ch))<br>Lowercase++<br><b>else if</b> (Character.isDigit(Ch))<br>Digit++<br><b>else if</b> (Ch != '#')<br>Other++<br><b>end if</b> |
|           | Table of counts - display quantity of each type of char entered |  |
|           |   |  |

- E. Limits / Constraints:
  - a. Can only take one character at a time
  - b. Cannot handle whitespace or null values.
    - i. Only functions for ASCII characters within typeable range, excluding the space bar.
    - ii. 33 - 126 (!, ~)

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char Ch, NextCh, NextCh2

int Ch\_Value, Uppercase = 0, Lowercase = 0, Digit = 0, Other = 0

```
do
    write "Please enter your character: "
    read Ch
    Ch_Value = Ch

    if (Ch != '#')
        write (Ch + " " + Ch_Value)
        NextCh = Ch
        NextCh2 = ++NextCh
        write ((NextCh++) + " " + (++NextCh2))
    end if

    if (Character.isUpperCase(Ch))
        Uppercase++
    else if (Character.isLowerCase(Ch))
        Lowercase++
    else if (Character.isDigit(Ch))
        Digit++
    else if (Ch != '#')
        Other++
    end if

while (Ch != '#')
end do-while

write ("Number of uppercase: " + Uppercase + "Number of lowercase: " + Lowercase + "Numbers: " +
Digit + "Number of other characters: " + Other)
```