Week 15 Review --Regular Expressions (RegEx)-For text searching & manipulation

Referece sites <http://www.regexr.com> <http://www.tutorialspoint.com/java/java_regular_expressions.htm>

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| **Java Subexpression** | **Matches** |
| ^ | Matches beginning of line. |
| $ | Matches end of line. |
| . | Matches any single character except newline. Using m option allows it to match newline as well. |
| [...] | Matches any single character in brackets. |
| [^...] | Matches any single character not in brackets |
| \A | Beginning of entire string |
| \z | End of entire string |
| \Z | End of entire string except allowable final line terminator. |
| re\* | Matches 0 or more occurrences of preceding expression. |
| re+ | Matches 1 or more of the previous thing |
| re? | Matches 0 or 1 occurrence of preceding expression. |
| re{ n} | Matches exactly n number of occurrences of preceding expression. |
| re{ n,} | Matches n or more occurrences of preceding expression. |
| re{ n, m} | Matches at least n and at most m occurrences of preceding expression. |
| a | b | Matches either a or b. |
| \w | Matches word characters. |
| \W | Matches nonword characters. |
| \s | Matches whitespace. Equivalent to [\t\n\r\f]. |
| \S | Matches nonwhitespace. |
| \d | Matches digits. Equivalent to [0-9]. |
| \D | Matches nondigits. |
| \A | Matches beginning of string. |
| \Z | Matches end of string. If a newline exists, it matches just before newline. |
| \z | Matches end of string. |
| \b | Matches word boundaries when outside brackets. Matches backspace (0x08) when inside brackets. |

**Set up a patten to match given tasks for given strings below. First example given below.**

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| **String/phrase** | **Task** | **Your Pattern** |
| **"cat cat cat cattie cat"** | **Find Cat occurrences** | **"\\bcat\\b"** note use of the added ( \ ) character used as an escape sequence |
| **doggy** | **Find dog** |  |
| **Apple123** | **Must start with Apple** |  |
| **Apple123** | **Must start with Apple or apple** |  |