Java Regular Expression Notation

(An Overview)

Unless preceded by a backslash, the following characters are treated as **meta characters**:

([{ \ ^ - $ |] }) ? * + .

Character Classes: A regular expression looking or specific characters

[abc]	a, b, or c (simple class)
[^abc]	Any character except a, b, or c (negation)
[a-zA-Z]	a through z, or A through Z, inclusive (range)
[a-d[m-p]]	a through d, or m through p: [a-dm-p] (union)
[a-z&&[def]]	d, e, or f (intersection of a-z and [def])
[a-z&&[^bc]]	a through z, except for b and c: [ad-z] (subtraction)
[a-z&&[^m-p]]	a through z, and not m through p: [a-lq-z] (subtraction)

<u>Boundary Matchers</u>

^	The beginning of a line
$	The end of a line
\b	A word boundary
\B	A non-word boundary
\A	The beginning of the input
\G	The end of the previous match
\Z	The end of the input but for the final terminator, if any
\z	The end of the input

Matches against numeric values

>	greater than
>=	greater than or equal to
<	less than
<=	less than or equal to
&&	and
||	or
!=	not equal to

<u>Predefined Character Classes</u>

.	Any character (may or may not match line terminators)
\d	A digit: [0-9]
\D	A non-digit: [^0-9]
\s	A whitespace character: [\t\n\x0B\f\r]
\S	A non-whitespace character: [^\s]
\w	A word character: [a-zA-Z_0-9]

\W	A non-word character: [^\w]

<u>Quantifiers</u>

X?	once or not at all
X*	zero or more times
X+	one or more times
X{n}	exactly n times
X{n,}	at least n times
X{n,m}	at least n but not more than m times

Some Examples

The word ‘cost’ :	cost
A string that starts 'cost' :	^cost.*
A string that contains 'cost' or 'Cost':	.*[cC]ost.*
A string that starts with the letter g:	^g\w*

Validating a paswword:

Example: ((?=.*\d)(?=.*[a-z])(?=.*[A-Z])(?=.*[@#$%]).{6,20})

The regular expression states the password must be between 6 and 20 charectors with at least on digit, one lower case letter, one upper case letter and one of the four special symbols listed.

```
(                       # Start of group
 (?=.*\d)               #   must contains one digit from 0-9
 (?=.*[a-z])            #   must contains one lowercase characters
 (?=.*[A-Z])            #   must contains one uppercase characters
 (?=.*[@#$%])           #   must contains one special symbols in the list "@#$%"
       .                #     match anything with previous condition checking
        {6,20}          #     length at least 6 characters and maximum of 20
)                       # End of group
```

For more information on Java Regular Expression see:
http://docs.oracle.com/javase/tutorial/essential/regex/