**Regular Expressions (Regex) Cheat Sheet**

**Special Characters in Regular Expressions & their meanings**

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| **Character** | **Meaning** | **Example** |
| **\*** | Match **zero, one or more** of the previous | Ah\* matches "Ahhhhh" or "A" |
| **?** | Match **zero or one** of the previous | Ah? matches "Al" or "Ah" |
| **+** | Match **one or more** of the previous | Ah+ matches "Ah" or "Ahhh" but not "A" |
| **\** | Used to **escape** a special character | Hungry\? matches "Hungry?" |
| **.** | Wildcard character, matches **any** character | do.\* matches "dog", "door", "dot", etc. |
| **( )** | **Group** characters | See example for | |
| **[ ]** | Matches a **range** of characters | [cbf]ar matches "car", "bar", or "far" [0-9]+ matches any positive integer [a-zA-Z] matches ascii letters a-z (uppercase and lower case) [^0-9] matches any character not 0-9. |
| **|** | Matche previous **OR** next character/group | (Mon)|(Tues)day matches "Monday" or "Tuesday" |
| **{ }** | Matches a specified **number of occurrences** of the previous | [0-9]{3} matches "315" but not "31" [0-9]{2,4} matches "12", "123", and "1234" [0-9]{2,} matches "1234567..." |
| **^** | **Beginning** of a string. Or within a character range [] negation. | ^http matches strings that begin with http, such as a url. [^0-9] matches any character not 0-9. |
| **$** | **End** of a string. | ing$ matches "exciting" but not "ingenious" |

**Regular Expressions (Regex) Character Classes Cheat Sheet**

**POSIX Character Classes for Regular Expressions & their meanings**

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| **Character Class** | **Meaning** |
| **[:alpha:]** | Any letter, [A-Za-z] |
| **[:upper:]** | Any uppercase letter, [A-Z] |
| **[:lower:]** | Any lowercase letter, [a-z] |
| **[:digit:]** | Any digit, [0-9] |
| **[:alnum:]** | Any alphanumeric character, [A-Za-z0-9] |
| **[:xdigit:]** | Any hexadecimal digit, [0-9A-Fa-f] |
| **[:space:]** | A tab, new line, vertical tab, form feed, carriage return, or space |
| **[:blank:]** | A space or a tab. |
| **[:print:]** | Any printable character |
| **[:punct:]** | Any punctuation character: ! ' # S % & ' ( ) \* + , - . / : ; < = > ? @ [ / ] ^ \_ { | } ~ |
| **[:graph:]** | Any character defined as a printable character except those defined as part of the space character class |
| **[:word:]** | Continuous string of alphanumeric characters and underscores. |
| **[:ascii:]** | ASCII characters, in the range: 0-127 |
| **[:cntrl:]** | Any character not part of the character classes: [:upper:], [:lower:], [:alpha:], [:digit:], [:punct:], [:graph:], [:print:], [:xdigit:] |