Regex Cheat Sheet (Python Focus)

1. Basic Characters

```
.        any character except newline
\d       digit (0-9)
\D       not digit
\w       word char (a-zA-Z0-9_)
\W       not word char
\s       whitespace
\S       not whitespace
```

2. Anchors

```
^        start of string
$        end of string
\b       word boundary
\B       no boundary
```

3. Quantifiers

```
*        0 or more
+        1 or more
?        0 or 1
{n}      exactly n times
{n,}     at least n times
{n,m}    n to m times
```

Greedy vs Lazy

```
.*       greedy
.*?      lazy
```

4. Character Sets

```
[a-z]    any lowercase
[A-Z]    any uppercase
[0-9]    any digit
```

```
[^a-z]    NOT lowercase letters
[a-zA-Z0-9_]  alphanumeric
```

5. Groups

```
(...)      capturing group
(?:...)    non-capturing group
```

Alternation

```
(cat|dog)
```

6. Lookaheads / Lookbehinds

```
(?=...)     positive lookahead
(?!...)     negative lookahead
(?<=...)    positive lookbehind
(?<!...)    negative lookbehind
```

Examples

```
\d+(?=kg)     digits before 'kg'
(?<!@)\w+     word not preceded by @
```

7. Common Patterns

```
Email      \w+@[a-zA-Z_]+?\.[a-zA-Z]{2,3}
Phone      \d{10}
Spaces     +              # collapse spaces
Username   ^[A-Za-z0-9_]{3,16}$
URL        https?://[^\s]+
```

8. Python Usage

```python
import re

re.search(pattern, text)
```

```
re.match(pattern, text)
re.findall(pattern, text)
re.sub(pattern, repl, text)
re.split(pattern, text)
```

9. Flags

```
re.I      ignore case
re.M      multiline (^ and $)
re.S      dot matches newline
re.X      verbose regex
```

Example

```
re.findall(r"^a.*b$", text, flags=re.I | re.M)
```

10. Useful Tricks

```
\d{2}(?:-\d{2}){2}      dd-mm-yy
([a-z])(?=\1)            double letters
(?<=prefix).+?(?=suffix)  extract between
^((?!bad).)*$            string not containing "bad"
```