

```
-- Week 1, Activity 12
-- Captures
```

```
local lpeg = require "lpeg"
```

```
-- Simple capture:
```

```
p = lpeg.P("a")^0 * lpeg.C(lpeg.P(1))
print(p:match("aaaaaabcd"))      --> b
```

```
p = lpeg.P("a")^0 * lpeg.C(3)
print(p:match("aaaaaabcd"))      --> bcd
```

```
p = lpeg.P("a")^0 * lpeg.C(1) * 2 * lpeg.C(2)
print(p:match("aaX bcd"))        --> X      bc
```

```
-- Here the capture is being executed several times:
```

```
p = lpeg.C("a")^0
print(p:match("aaaa"))           --> a  a  a  a
```

```
-- Here the capture is executed only 1 time:
```

```
p = lpeg.C(lpeg.P("a")^0)
print(p:match("aaaa"))           --> aaaa
```

```
-- Here the capture is executed at most n times:
```

```
-- (several captures, not just only one)
```

```
p = lpeg.C("a")^-2
print(p:match("aaaa"))           --> a  a
```

```
-- If there is no match, capture return the
```

```
-- index that capture stop:
```

```
p = lpeg.C("a")^-1
print(p:match("b"))              --> 1
```

```
p = lpeg.C(lpeg.P("a")^-1)
```

```
print(p:match("a"))              --> a
```

```
print(p:match("b"))              --> " " (empty string)
```

```
-- Capture the current position
```

```
p = lpeg.P("a")^0 * lpeg.Cp() * "b"
print(p:match("aaab"))           --> 4
```