

```
-- Week 1, Activity 11:
-- Write a pattern that matches a non-empty list of numerals intercalated with
-- the plus operator (+). A plus operator can only appear between two numerals.
-- Make sure your pattern allows spaces around any element (numerals and
-- operators).
```

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

```
-- Pattern for 0 or more spaces
spc = lpeg.P(" ")^0
```

```
-- Pattern for 1 or more numbers
num = lpeg.S("0123456789")^1
```

```
-- Pattern for + operator
plus = lpeg.P("+")
```

```
-- Quick-and-dirty pattern for a non-empty list of numerals intercalated with
-- the plus operator:
```

```
p = spc * num * spc * plus * spc * num * spc
```

```
-- Extending the idea to matches binary operators (at most one operator
-- must be present):
```

```
mathop = lpeg.S("+-*/%")^-1
```

```
-- Quick-and-dirty pattern for binary arithmetic:
```

```
p2 = spc * num * spc * mathop * spc * num * spc
```

```
-- Pattern test:
```

```
-- These must be OK:
```

```
print(p:match("1+1"))
```

```
print(p:match(" 1+1"))
```

```
print(p:match(" 1+ 1"))
```

```
print(p:match(" 1 +1"))
```

```
print(p:match(" 1 + 1"))
```

```
print(p:match(" 1 + 1  "))
```

```
-- These extended math must be OK:
```

```
print(p2:match("1-1"))
```

```
print(p2:match(" 1*1"))
```

```
print(p2:match(" 1/ 1"))
```

```
print(p2:match(" 1 %1"))
```

```
print(p2:match(" 1 + 1"))
```

```
print(p2:match(" 1 - 1  "))
```

```
-- These must FAIL:
```

```
print(p:match("1 1"))
```

```
print(p:match("+ 1"))
```

```
print(p:match("+"))
```

```
print(p:match("123"))
```