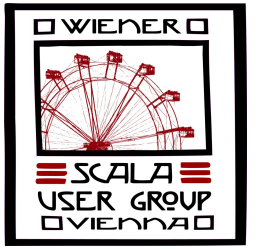
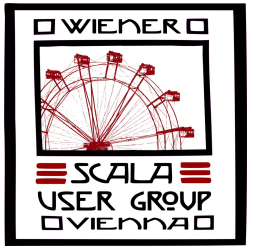
Parser Combinators easy to use ???



Define what you want to parse

```
a = (1 2)
b =hallo
hallo=b
c = 123456
```



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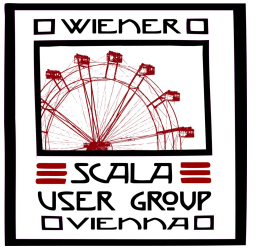
What will be the result of parsing ?

```scala
case class Prop(name: String, value: Value)

trait Value

case class SingleVal(value: String) extends Value

case class ListVal(value: List[String]) extends Value
```



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What does the eBNF look like

eBNF: extended Backus-Naur Form

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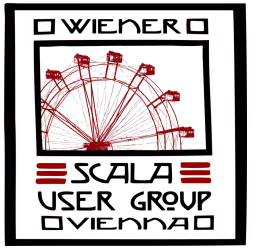
```

```
props     ::= {prop}
prop      ::= name '=' value
value     ::= listVal | singleVal
listVal   ::= '(' {aVal} ')'
singleVal ::= aVal
aVal      ::= '\w+'
name      ::= '\w+'
```



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BNF-Rules to Parser Combinators

Not to forget: extend
scala.util.parsing.combinator.RegexParsers

```scala
def props: Parser[List[Prop]]    = rep(prop)                ^^ {case v => v}

def prop: Parser[Prop]           = name ~ "=" ~ value       ^^ {case n ~ _ ~ v => Prop(n, v)}

def value: Parser[Value]         = listVal | singleVal      ^^ {case v => v }

def listVal: Parser[ListVal]     = "(" ~ rep(aVal) ~ ")"    ^^ {case _ ~ v ~ _ => ListVal(v)}

def singleVal: Parser[SingleVal] = aVal                     ^^ {case v => SingleVal(v)}

def aVal : Parser[String]        = """\w+""".r              ^^ {case v => v}

def name: Parser[String]         = """\w+""".r              ^^ {case v => v}
```

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def prop: Parser[Prop]           = name ~ "=" ~ value    ^^ {case n ~ _ ~ v => Prop(n, v)}

def value: Parser[Value]         = listVal | singleVal   ^^ {case v => v }

def listVal: Parser[ListVal]     = "(" ~ rep(aVal) ~ ")" ^^ {case _ ~ v ~ _ => ListVal(v)}

def singleVal: Parser[SingleVal] = aVal                  ^^ {case v => SingleVal(v)}

def aVal : Parser[String]        = """\w+""".r           ^^ {case v => v}

def name: Parser[String]         = """\w+""".r           ^^ {case v => v}
```

How to call it

```scala
def parse(in: String): List[Prop] = {
    parseAll(props, in) match {
        case Success(re, _) => re
        case failure: NoSuccess => {
            val msg = "Could not parse grammar. %s" format (failure)
            throw new IllegalStateException(msg)
        }
    }
}
```