Wikimath

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Wikimath

0.1 writing wikimath expressions

Here we define a string of text.

Listing 1:

```
> x <- "V_c /F (L * h^-1 )  ~ theta_1 *(WT/70)^theta_2"
```

0.2 extracting and supressing elements

Now we try x as a column name for a data frame.

Listing 2:

```
> d <- data.frame(subject=1,x=2)
> names(d)[2] <- wiki2label(x)
> d
```

```
  subject V_c/F
1       1     2
```

Listing 3:

```
> justUnits(x)
```

```
[1] "L * h^-1 "
```

0.3 identifying related parameters

What theta is primarily associated with this equation?

Listing 4:

```
> wiki2parameter(x)
```

```
[1] "THETA1"
```

Listing 5:

```
> text2decimal(wiki2parameter(x))
```

```
[1] 1
```

0.4 rendering in a table

Next we try it in a latex table.

Listing 6:

```
> writeLines(tabular(data.frame(model=wiki2latex(noUnits(x)))))
```

model
$\mathrm{V_c/F} \sim \theta_1 \cdot (\mathrm{WT}/70)^{\theta_2}$

0.5 rendering in a figure

Finally we try it in a figure.

Listing 7:

```
> library(lattice)
> print(densityplot(
+    ~ v,
+   data.frame(v=rnorm(1000,mean=1)),
+   main=parse(text=wiki2plotmath(noUnits(x))),
+   xlab='volume (l)'
+ ))
```

$$V_c/F \approx \theta_1 \cdot (WT/70)^{\theta_2}$$