Wikimath

0.1 writing wikimath expressions

Here we define a string of text.

```
> 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.

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

  subject V_c/F
1       1     2

> justUnits(x)

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

0.3 identifying related parameters

What theta is primarily associated with this equation?

```
> wiki2parameter(x)

[1] "THETA1"

> text2decimal(wiki2parameter(x))

[1] 1
```

0.4 rendering in a table

Next we try it in a latex table.

```
> library(Hmisc)
> tex <- capture.output(latex(
+   file='',
+   title='',
+   where="!htbp",
+   rowname=NULL,
+   colheads='model',
+   data.frame(x=wiki2latex(noUnits(x)))
+ ))
> writeLines(tex)
```

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

0.5   rendering in a figure

Finally we try it in a figure.

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

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