# Markup Sample Document

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## Abstract

on the side of nationalism are ranged all the powers of poetry and song, language and literature, self-love and pride; in its service are gathered the strongest emotions, worthy as well as base; loyalty and love as well as lust and hate. on the other side we have only the cold light of the human intelligence, warmed by the small fire of complete unselfishness. but on this side is truth, and on this side is God, and either it will prevail or we shall go down into utter darkness. (So says Kenneth Boulding, as quoted by Robert Wright in *Three Scientists and Their Gods*)

## 1 Introduction

this is a file to test and show how this markup system works.

if you want to see a document made with it, then see here or here or here.

not sure what it really does.

but there's an easy way to find out! see Section 1 and Figure 1.

1. {enumerate ...} uses the first item
2. whatever it is
3. to separate the items of the list[1]

**definitions** a new list type, perhaps should be called 'descriptions'.

**doubt** infant split personality.

**some stuff** what is stuff? who can say. stuff has been here for thousands of years. where did it come from? somewhere. everywhere.

The book *Discrete Thoughts* contains this poem by Antonio Machado:

> the reason people so often lie
> is that they lack imagination:
> they don't realize that the truth, too,
> is a matter of invention.

The following is a {code ...} region, presumably for lisp.

```
(define (foo)
   (whatever))
;; how verbatim is {code}
;; (didn't this make <p> b4???)
;; following two lines are blank
;; in source.

(define (bar)
   (somethingelse))
;; next two lines have {comment}
(define (qux)
   (nothing))
```

should write a new lexical environment for C, since C uses {}s frequently:

[1] wouldn't it be better to use a list? though those bullets do look nice in ascii...

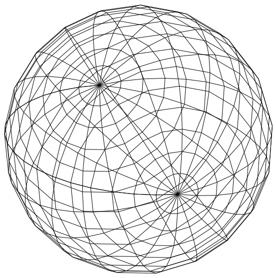

Figure 1: Caption goes here.

```
double pow(double base, int exp) {
   int t, bit = 1;
   int square = base;
   double result = 1.0;
   while (bit <= exp) {
      if (bit & exp)
         result *= square;
      bit = bit << 1;
      square *= square;
   }
   return result;
}
```

the {evalsto} directive is for lisp examples like `(+ 1 2)`→`3`. this is fine (though not very pretty), but way cooler would be a macro where you don't have to give the right hand side because it computes it. Finally, also interesting would be a directive that allowed one to show a piece of markup code, and the effect of executing it side by side.

### 1.1 More Stuff

la de da da. you can link random text to arbitrary URLs. here is some math $\sigma = e^{\pi i} \bigcup \frac{\Omega}{\Psi}$. Bibs are supported [Barendregt84][Draves95], though a bibtex gateway would be nice[Futamura71][JoSeSo85][Massalin92].

the {ps *filename*} directive takes any postscript file and renders it with antialiasing, and includes it as a gif file. specialized directives that draw diagrams and graphs are also available.

| | nitrous | | manual | |
|---|---|---|---|---|
| | int | spec | int | |
| power | 4.5 | 2.8 | | |
| bitcopy | 130 | 100 | | 59 |
| nybble 4 | 27000 | 230 | 310 | 130 |
| nybble 10 | 11000 | 190 | | 70 |
| filter 3 | | | 310 | 180 |
| filter 7 | | | 610 | 280 |

Figure 3: Benchmark data, times in microseconds, two digits of precision. All time trials run five times; best time taken.

$\boxed{\text{frame boxes}}$ are implemented with a hack. `as-image` is for setting whole blocks of markup as images in html:

$$[\![ f ]\!] \;\; x \;\; y \;=\; [\![\, [\![ mix ]\!] \;\; f \quad x ]\!] \;\; y$$

the definition of [quine quotes] has a problem; depending on the output font you have to adjust the backwards spacing. what's the proper tex?

you can define simple (argumentless) macros with {`def name` {`body text`}} thus simple simple simple.

## 2 Another Section Title

accents of various sorts: mañana à la Gödel. ô ø å.

floating figures, centering, inline dot graphics, tables, and plotting.

⟨angle⟩ brackets.

our contemporary western society, in spite of its material, intellectual and political progress, is increasingly less conducive to mental health, and tends to undermine the inner security, happiness, reason and the capacity for love in the individual; it tends to turn him into an automaton who pays for his human failure with increasing mental sickness, and with despair hidden under a frantic drive for work and so-called pleasure. (Dr Erich Fromm, in Huxley's *Brace New World Revisited* p. 38)

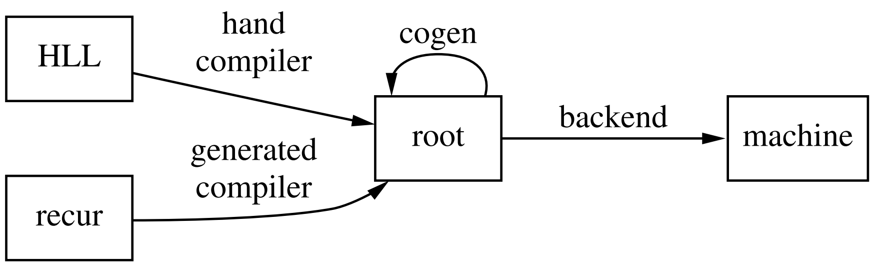


Figure 2: System Diagram

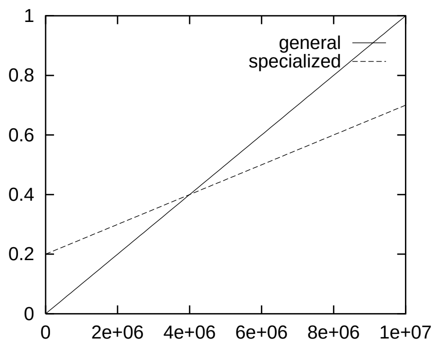


Figure 4: Samples vs Time, as rendered by gnuplot

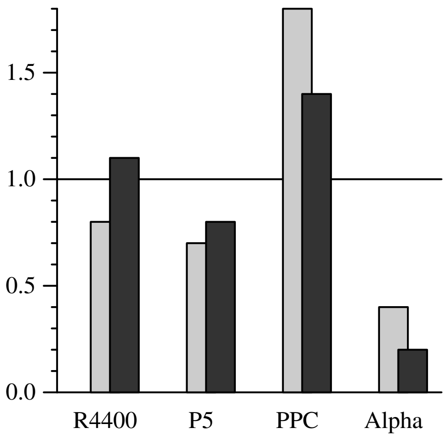


Figure 5: Markup makes it really easy to make a bar-chart like this. The rendering is done with jgraph, but significant processing is done at the lisp level.

# References

[Barendregt84] Hendrik P Barendregt. *The Lambda Calculus, Its Syntax and Semantics*. North-Holland 1984.

[Draves95] Scott Draves. Lightweight Languages for Interactive Graphics. CMU-CS-95-148.

[Futamura71] Y Futamura. Partial evalutaion of computation process - an approach to a compiler-compiler. *Systems, Computers, Controls*, 2:45-50.

[JoSeSo85] Neil D Jones, P Sestoft, H Søndergaard. An experiment in partial evaluation: The generation of a compiler generator. *Rewriting Techniques and Applications, Dijon, France*, 1985.

[Massalin92] Henry Massalin. *Efficient Implementation of Fundamental Operating System Services*. Columbia 1992.