AILP (2014) Report

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1 Introduction

This report describes the work done in the AILP course. It gives the aims and hypothesis that guided the work; describes the algorithms that were implemented; reports the results of experiments that were run; and analyses these results.

There is plenty of online documentation for LaTeX. `http://en.wikibooks.org/wiki/LaTeX` should meet most of your needs.

2 Argumentation Theory

3 Aims and hypothesis

The aim of the assignment is to to model a situation where there is a proponent and opponent arguing about some conclusion, involving exchange of arguments and the notion of *burden of proof*.

The goal of the system is the following:

> To allow formal analysis of legal disputes in a way that closely matches what happens in real cases.

4 Design and Specification

The following requirements were addressed:

1. Reading input from text files.
2. ...

5 Implementation

Two new modules were developed ...

5.1 Reading from text files

The text input reader was modelled by a class `Reader` ...

5.2 Another extension

Another implementation.

6 Evaluation

6.1 Choice of tests

6.2 Test results

6.3 Formatting: tables

An example of a table is shown as Table 1. Somewhat different styles are allowed according to the type and purpose of the table.

ratio	decibels
1/1	0
2/1	≈ 6
3.16	10
10/1	20
1/10	-20
100/1	40
1000/1	60

Table 1: This is an example of a table

To include text without formatting, use this (scriptsize uses a significantly smaller font, intermediate sizes are footnotesize and small):

```
8.8   1.2   0.0   2.5   3.8   7.5   0.0   5.0   0.0
7.5   1.2   0.0   2.5   2.5   0.0   5.0   0.0   1.2
0.0  67.5   5.0   1.2  11.2   3.8   7.5   3.8   0.0
0.0   1.2  62.5   3.8  22.5   0.0   6.2   2.5   1.2
2.5   0.0   0.0  76.2   0.0   1.2   6.2   0.0  13.8
1.2   6.2  21.2   5.0  47.5   1.2   5.0   1.2   6.2
6.2   3.8   0.0   5.0   0.0  57.5   0.0  10.0   0.0
0.0   2.5   1.2   8.8   0.0   0.0  73.8   2.5  11.2
0.0   2.5   8.8   2.5   3.8   5.0   2.5  61.3   2.5
0.0   0.0   2.5  20.0   0.0   0.0  12.5   0.0  63.7
```

It is better practise to place tables in a float environment such as `figure` — it is likely to float away to an unexpected place, though.

7 Discussion and Conclusion

7.1 Maths, if needed

$$x(t) = s(f_\omega(t)) \tag{1}$$

where $f_\omega(t)$ is a special warping function

$$f_\omega(t) = \frac{1}{2\pi j} \oint_C \frac{\nu^{-1k} d\nu}{(1 - \beta\nu^{-1})(\nu^{-1} - \beta)} \tag{2}$$

8.8	1.2	0.0	2.5	3.8	7.5	0.0	5.0	0.0
7.5	1.2	0.0	2.5	2.5	0.0	5.0	0.0	1.2
0.0	67.5	5.0	1.2	11.2	3.8	7.5	3.8	0.0
0.0	1.2	62.5	3.8	22.5	0.0	6.2	2.5	1.2
2.5	0.0	0.0	76.2	0.0	1.2	6.2	0.0	13.8
1.2	6.2	21.2	5.0	47.5	1.2	5.0	1.2	6.2
6.2	3.8	0.0	5.0	0.0	57.5	0.0	10.0	0.0
0.0	2.5	1.2	8.8	0.0	0.0	73.8	2.5	11.2
0.0	2.5	8.8	2.5	3.8	5.0	2.5	61.3	2.5
0.0	0.0	2.5	20.0	0.0	0.0	12.5	0.0	63.7

Figure 1: Some data

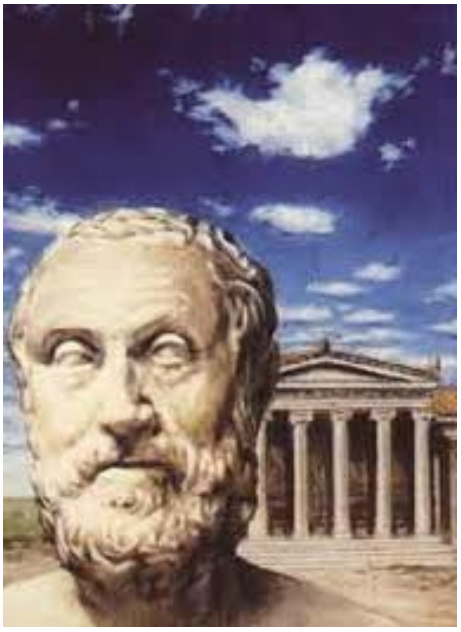
A residue theorem states that

$$\oint_C F(z)dz = 2\pi j \sum_k Res[F(z), p_k] \tag{3}$$

Applying (3) to (1), it is straightforward to see that

$$1 + 1 = \pi \tag{4}$$

And here is an included image (.png, .pdf and .jpg formats are allowed).



7.2 References

References should be numbered in order of appearance, for example [1], [2], and [3]. You can use `bibtex` to prepare references, or do it by hand if there are only a few.

References

[1] Smith, J. O. and Abel, J. S., "Bark and ERB Bilinear Transforms", IEEE Trans. Speech and Audio Proc., 7(6):697–708, 1999.

[2] Lee, K.-F., Automatic Speech Recognition: The Development of the SPHINX SYSTEM, Kluwer Academic Publishers, Boston, 1989.

[3] Rudnicky, A. I., Polifroni, Thayer, E. H., and Brennan, R. A. "Interactive problem solving with speech", J. Acoust. Soc. Amer., Vol. 84, 1988, p S213(A).