

# Software Systems Lab : Inlab Advanced Latex

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# 1 Itemize, Enumerate and Description

## 1.1 Itemize

- `\LaTeX`typesets a file of text using the `TEX` program.
- `\LaTeX`is widely used in academia for the communication and publication of scientific documents in many fields, including mathematics, physics, computer science, statistics, economics and political science.
- `\LaTeX`can be used as a standalone document preparation system or as an intermediate format.
- **Have used `renewcommand` for the bullets to be bigger.**

## 1.2 Enumerate

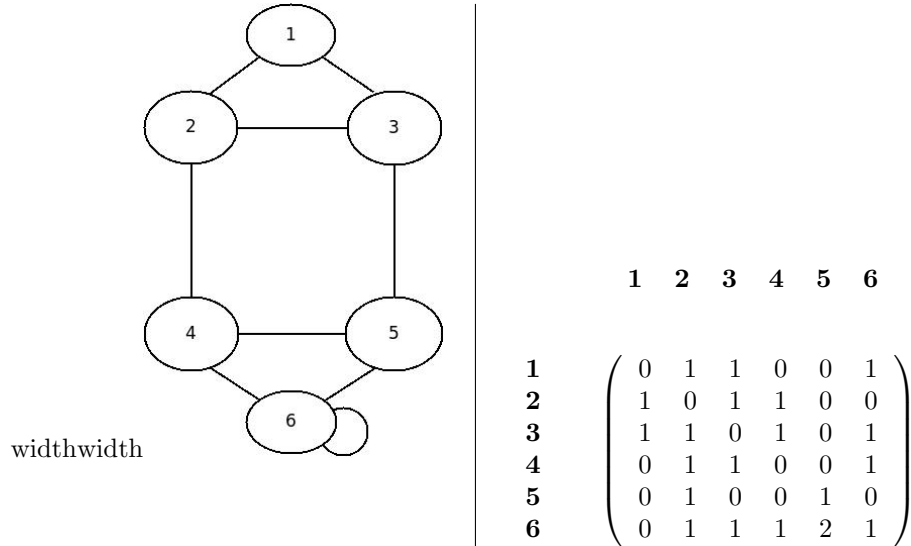
1. `\LaTeX`typesets a file of text using the `TEX` program.
2. `\LaTeX`widely used in academia for the communication and publication of scientific documents in many fields, including mathematics, physics, computer science, statistics, economics and political science.
3. `\LaTeX`can be used as a standalone document preparation system or as an intermediate format.
4. `\LaTeX`is intended to provide a high-level language that accesses the power of `TeX` in an easier way for writers.

## 1.3 Descripton

- **Red** A colour at the end of the spectrum next to orange and opposite violet, as of blood, fire, or rubies. program.
- **Blue** A colour intermediate between green and violet, as of the sky or sea on a sunny day.
- **White** The colour of milk or fresh snow, due to the reflection of all visible rays of light; the opposite of black.
- **Black** The darkest colour owing to the absence of or complete absorption of light; the opposite of white.

## 2 Mathematical formulas and notations

### 2.1 Matrix



### 2.2 Equation Array

$$\cos 2\theta = \cos^2 \theta - \sin^2 \theta \quad (1)$$

$$= 2\cos^2 \theta - 1 \quad (2)$$

### 2.3 Propositional Formulae using Various Operators

$$\neg(\forall x)(\varphi(x)) \leftrightarrow (\exists x)\neg\varphi(x)$$

$$(\forall x)(\psi(x) \wedge \psi(x)) \leftrightarrow ((\forall x)\varphi(x) \wedge (\forall x)\varphi(x))$$

$$\boxed{\text{GreekLetters} : | \alpha \mathbf{A} \beta \mathbf{B} \gamma \Gamma \rho \rho \mathbf{P} \sigma \Sigma \delta \Delta \epsilon \epsilon \mathbf{E}}$$

### 2.4 Mathematical Formulas

1.

$$\frac{\pi}{4} = \sum_{n=0}^{\infty} \frac{\overbrace{(-1)^n * (1 + 1 + \dots + 1)}^n}{(2n + 1) * n}$$

## 3 Quote

### 3.1 Quote

The margins of the quote environment are indented on both the left and the right. The text is justified at both margins. Leaving a blank line between text produces a new paragraph. The package `csquotes` offers a multilingual solution to quotations, with integration to citation mechanisms offered by BibTeX.

“Unlike the quotation environment, paragraphs are not indented. It’s important to remark that even if you are typing quotes on English there are different quotation marks used in English (UK) and English (US).”

## 4 Algorithm and Pseudo Code

### 4.1 Tabbing

```
//Breadth First Search Function
void BFS(list<long long int> queue, long long int length)
    long long int v;
    if(queue.empty())
        return;
    list<long long int>::iterator i;
    list<long long int> queue temp;
    while(!queue.empty()){
        v=queue.front();
        queue.pop_front();
        for(i=adj[v].begin(); i!=adj[v].end(); i++){
            if(!pro_ver[*i]){
                result[*i]=length;
                queue temp.push_back(*i);
                pro_ver[*i]=true;
                adj[*i].remove(v);
            }
        }
```

## 5 Tree

