

# Putting quantum machine learning algorithms to the test

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# Introduction

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Some general info about QML. Introduce the topic softly and zoom into it.

Sections group slides of the same topic

```
\section{Elements}
```

for which **metropolis** provides a nice progress indicator ...

Sections group slides of the same topic

```
\section{Elements}
```

for which **metropolis** provides a nice progress indicator ...

## **Amplitude-based kNN algorithm**

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**metropolis** supports 4 different titleformats:

- Regular
- SMALLCAPS
- ALLSMALLCAPS
- ALLCAPS

They can either be set at once for every title type or individually.



# Implementation with IBM's quantum computer

This frame uses the `smallcaps` titleformat.

## Potential Problems

Be aware, that not every font supports small caps. If for example you typeset your presentation with pdfTeX and the Computer Modern Sans Serif font, every text in smallcaps will be typeset with the Computer Modern Serif font instead.

# Problems with universal gate sets

This frame uses the `allsmallcaps` titleformat.

## Potential problems

As this titleformat also uses smallcaps you face the same problems as with the `smallcaps` titleformat. Additionally this format can cause some other problems. Please refer to the documentation if you consider using it.

As a rule of thumb: Just use it for plaintext-only titles.

This frame uses the `allcaps` titleformat.

## Potential Problems

This titleformat is not as problematic as the `allsmallcaps` format, but basically suffers from the same deficiencies. So please have a look at the documentation if you want to use it.

# **Qubit-based kNN quantum algorithm**

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The theme provides sensible defaults to  
`\emph{emphasize}` text, `\alert{accent}` parts  
or show `\textbf{bold}` results.

becomes

The theme provides sensible defaults to *emphasize* text, **accent** parts or  
show **bold** results.

# Font feature test

- Regular
- *Italic*
- SMALLCAPS
- **Bold**
- **Bold Italic**
- **Bold SmallCaps**
- Monospace
- *Monospace Italic*
- Monospace Bold
- *Monospace Bold Italic*

## Items

- Milk
- Eggs
- Potatos

## Enumerations

1. First,
2. Second and
3. Last.

## Descriptions

**PowerPoint** Meeh.  
**Beamer** Yeeeha.

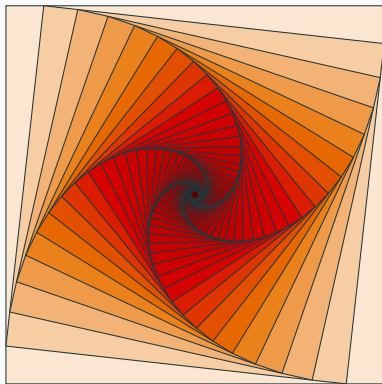
- This is important



- This is important
- Now this

- This is important
- Now this
- And now this

- This is really important
- Now this
- And now this



**Figure 1:** Rotated square from texample.net.

**Table 1:** Largest cities in the world (source: Wikipedia)

City	Population
Mexico City	20,116,842
Shanghai	19,210,000
Peking	15,796,450
Istanbul	14,160,467

Three different block environments are pre-defined and may be styled with an optional background color.

## Default

Block content.

## Alert

Block content.

## Example

Block content.

## Default

Block content.

## Alert

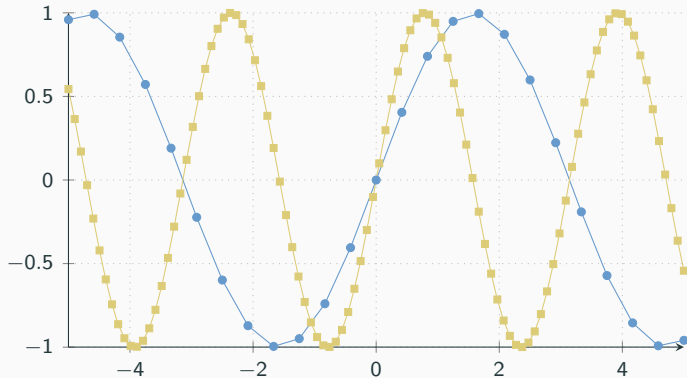
Block content.

## Example

Block content.

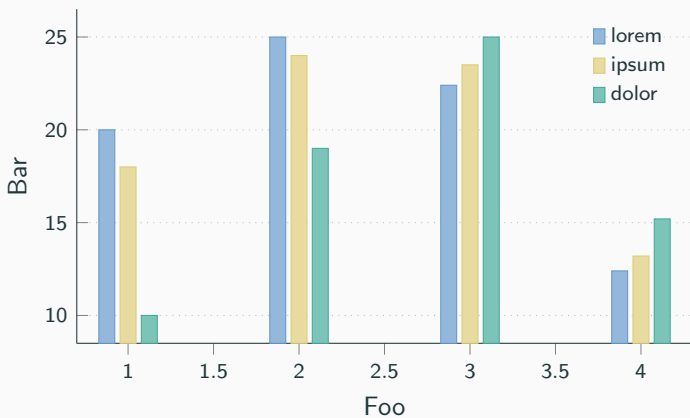
$$e = \lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n$$

# Line plots





# Bar charts



*Veni, Vidi, Vici*

## Conclusion

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Some references to showcase `[allowframebreaks]` [?, ?, ?, ?, ?]

**Questions?**

## Backup slide I

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