Hanzehogeschool
Groningen
University of Applied Sciences

Leuke titel voor project

Documentatie verslag van project 2.4

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7.2 Lists

Lists are useful to present information in a concise and/or ordered way[1].

7.2.1 Numbered List

1. The first item
2. The second item
3. The third item

7.2.2 Bullet Points

- The first item
- The second item
- The third item

7.2.3 Descriptions and Definitions

Name Description
Word Definition
Comment Elaboration

[1] Footnote example...

8. In-text Elements

8.1 Theorems

This is an example of theorems.

8.1.1 Several equations

This is a theorem consisting of several equations.

Theorem 8.1.1 — Name of the theorem. In $E = \mathbb{R}^n$ all norms are equivalent. It has the properties:

$$\big|\,||\mathbf{x}|| - ||\mathbf{y}||\,\big| \leq ||\mathbf{x}-\mathbf{y}|| \tag{8.1}$$

$$||\sum_{i=1}^{n} \mathbf{x}_i|| \leq \sum_{i=1}^{n} ||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \tag{8.2}$$

8.1.2 Single Line

This is a theorem consisting of just one line.

Theorem 8.1.2 A set $\mathscr{D}(G)$ in dense in $L^2(G)$, $|\cdot|_0$.

8.2 Definitions

This is an example of a definition. A definition could be mathematical or it could define a concept.

Definition 8.2.1 — Definition name. Given a vector space E, a norm on E is an application, denoted $||\cdot||$, E in $\mathbb{R}^+ = [0, +\infty[$ such that:

$$||\mathbf{x}|| = 0 \;\Rightarrow\; \mathbf{x} = \mathbf{0} \tag{8.3}$$

$$||\lambda \mathbf{x}|| = |\lambda| \cdot ||\mathbf{x}|| \tag{8.4}$$

$$||\mathbf{x}+\mathbf{y}|| \leq ||\mathbf{x}|| + ||\mathbf{y}|| \tag{8.5}$$

8.3 Notations

Notation 8.1. *Given an open subset G of $\mathbb{R}^n$, the set of functions φ are:*

1. *Bounded support G;*
2. *Infinitely differentiable;*

a vector space is denoted by $\mathscr{D}(G)$.

8.4 Remarks

This is an example of a remark.

R The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field $\mathbb{K} = \mathbb{R}$, however, established properties are easily extended to $\mathbb{K} = \mathbb{C}$.

8.5 Corollaries

This is an example of a corollary.

Corollary 8.5.1 — Corollary name. The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field $\mathbb{K} = \mathbb{R}$, however, established properties are easily extended to $\mathbb{K} = \mathbb{C}$.

8.6 Propositions

This is an example of propositions.

8.6.1 Several equations

Proposition 8.6.1 — Proposition name. It has the properties:

$$\big|\,||\mathbf{x}|| - ||\mathbf{y}||\,\big| \leq ||\mathbf{x}-\mathbf{y}|| \tag{8.6}$$

$$||\sum_{i=1}^{n}\mathbf{x}_i|| \leq \sum_{i=1}^{n}||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \tag{8.7}$$

8.6.2 Single Line

Proposition 8.6.2 Let $f, g \in L^2(G)$; if $\forall \varphi \in \mathscr{D}(G)$, $(f,\varphi)_0 = (g,\varphi)_0$ then $f = g$.

8.7 Examples

This is an example of examples.

8.7.1 Equation and Text

■ **Example 8.1** Let $G = \{x \in \mathbb{R}^2 : |x| < 3\}$ and denoted by: $x^0 = (1,1)$; consider the function:

$$f(x) = \begin{cases} \mathrm{e}^{|x|} & \text{si } |x-x^0| \leq 1/2 \\ 0 & \text{si } |x-x^0| > 1/2 \end{cases} \tag{8.8}$$

The function f has bounded support, we can take $A = \{x \in \mathbb{R}^2 : |x-x^0| \leq 1/2+\varepsilon\}$ for all $\varepsilon \in]0;5/2-\sqrt{2}[$. ■

8.7.2 Paragraph of Text

■ **Example 8.2 — Example name.** Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

■

8.8 Exercises

This is an example of an exercise.

Exercise 8.1 This is a good place to ask a question to test learning progress or further cement ideas into students' minds. ■

8.9 Problems

Problem 8.1 What is the average airspeed velocity of an unladen swallow?

8.10 Vocabulary

Define a word to improve a students' vocabulary.
Vocabulary 8.1 — Word. Definition of word.

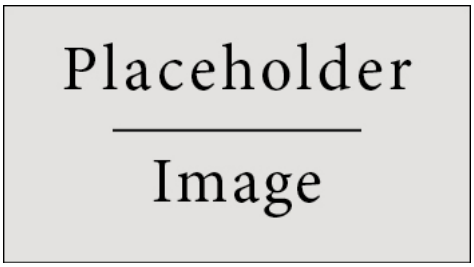
9. Presenting Information

9.1 Table

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Tabel 9.1: Table caption

9.2 Figure



Figuur 9.1: Figure caption

10. Listing code snippets

10.1 examples

Listing 10.1: python snippet

```
import random
n = random.randint(1, 99)
guess = int(raw_input("Enter an integer from 1 to 99: "))
while n != "guess":
    print
    if guess < n:
        print "guess is low"
        guess = int(raw_input("Enter an integer from 1 to 99: "))
    elif guess > n:
        print "guess is high"
        guess = int(raw_input("Enter an integer from 1 to 99: "))
    else:
        print "you guessed it!"
        break
    print
```

```
// Hello.java
import javax.swing.JApplet;
import java.awt.Graphics;

public class Hello extends JApplet {
    public void paintComponent(Graphics g) {
        g.drawString("Hello, world!", 65, 95);
    }
}
```

Listing 10.2: Java snippet