Learn how to program with **Kojo**

≡Scala

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SCIENCE CENTER LTH
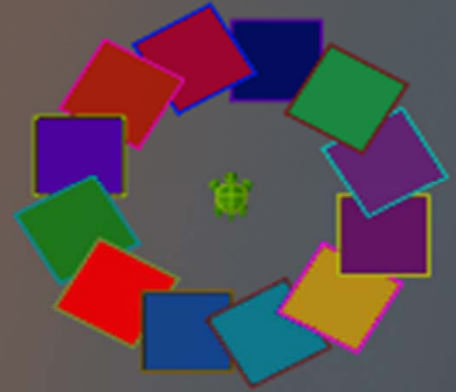
LUNDS UNIVERSITET
Lunds Tekniska Högskola

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www.vattenhallen.lth.se

Science Center LTH & Dept. of Computer Science, Lund University, Sweden

LEARN HOW TO PROGRAM !

*Encouraging tomorrow's software developers
to discover the excitement in programming*

Project leader: Prof. Björn Regnell, Lund University

http://cs.lth.se/bjornregnell/ → Lär dig programmera

Project "Learn how to program!"

Goals, Funding & Activities

- *Encouraging tomorrow's software developers to discover the excitement and importance of computer programming*
- *Widen the interest in engineering among young people*

- Funded by Lund University, Faculty of Engineering LTH, Working Group for Equality and Equal Treatment
- To Dept. of Computer Science LTH, 2012: 150 kSEK
- LTH Science Center Vattenhallen: student workers and facilities Monica Almquist, Maja Johansson, Amit Matharu
- Sister project at Dept. of EIT: Anders J Johansson

Concepts development and execution:
1. **School visits**: 20 min "try programming"-station for groups
2. **Summer school:** week for kids including 1 day programming
3. **Helping teachers** to introduce programming for kids in school

Project "Learn how to program!"

Approach: Scala beginners programming with Kojo

- No "semi programming": use "the real thing" from start!!
- Why use Scala as a first language for kids and their teachers?
  - Low threshold – no ceiling; easy take off – the sky is the limit
  - Powerful abstractions that enable kids to do a lot with little code
  - Help to find bugs already when you write the program (static typing with type inference)
  - Syntax is "clean" and without "upfront mystery" (class public static void main string args ...)
  - Syntax allows Swedish characters in identifiers
- Why use Kojo as an IDE for kids?   http://www.kogics.net/kojo
  - Full-fledged integrated development environment with dynamic code generation and graphical user interface
  - Out-of-the-box libraries for 2D animation, midi-music and much more
  - Both application (Windows, Linux, Mac) and webstart
  - Open source GNU GPL 3 (initiator, leading contributor: Lalit Pant, India)
  - Open-ended; any java jar can be loaded on startup

Project "Learn how to program!"

Achievements until summer 2012

- ~120 kids in our Summer School programming at LTH
- ~30 teachers have participated in
  our inspiration course for teachers at LTH
- ~20 kids try programming during school visits to LTH
- ~2000 visits and ~200 downloads of Kojo from Sweden
- The concept works!!

- Many thanks to LTH, Vattenhallen, Monica Almquist, Maja Johansson, Amit Matharu, Lalit Pant, Kristina von Hausswolff, Christian Söderberg, Anders J Johansson and all enthusiastic kids!

Project "Learn how to program!"

Plans and ideas fall 2012

- Collaboration with Malmö Högskola in teacher education "Lärarlyftet", Fall 2012 together with Kristina von Hausswolff
- "LTH Coding Sessions" for kids, c.f. http://malmo.coderdojo.se/ involving Computer Science students at LTH
- Special "LTH Coding Sessions" for girls
- …
- **If you want to join this project please contact** bjorn.regnell@cs.lth.se