

# Introduction

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KTH

HT22

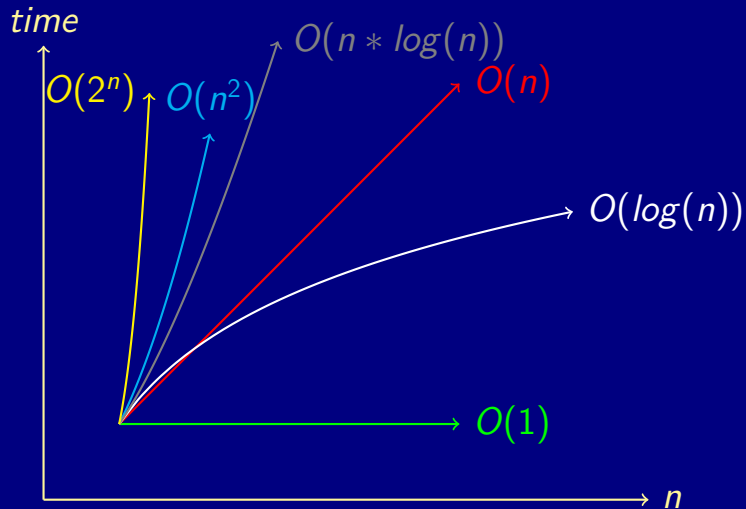
# Algorithms and data structures

# Algorithms and data structures

Why?

- function - make things work
- time/memory - estimate, if possible/necessary reduce

# when things grow



# Course syllabus

- assignments - to pass the course
- lectures - to guide you through the assignments
- help - practical help to solve problems

# Assignments

These are the assignments to pass with grade E:

- introduction - measure time
- hp35 - make use of a stack
- sorted - more efficient if sorted
- sorting - so learn how to sort
- linked data structures
- trees - I love'em
- queues - boring
- priority queues - better
- hash tables - the shit
- graphs - the world

# Assignments

These are the assignments for higher grades:

- D: Doubly linked list
- C: Quick sort
- B: T9
- A: Narvik to Malmö

*To receive a grade you need to do all of the assignments up to and including the grade.*

# language

You choose the language to use:

- Java - this is what I will use
- CC++ - yes, not a problem
- C# - yes, it's Java
- Python - no, you need to be able to work with arrays explicitly
- Julia - yes, might be the default language next year
- Rust - hmmm, I like Rust but it's not ideal for this course
- Haskell, Erlang ... functional languages - no, need updateable data structures
- Kotlin - yes, fun
- Go - yes, be aware of slices
- R - well, a bit unsure
- ... if you choose another language, ask me



# The reports

## My first report.

My Name

Spring Fall 2022

### Introduction

This is what a report should look like, vanilla L<sup>A</sup>T<sub>E</sub>X with regular page width and height and single spaced lines.

The name of the report should not be "My first report" and the name should not be "My Name". I thought that would be obvious but each year I have submitted reports were these templates have not been changed.

### Layout

The rows in regular article mode are short - because it makes it easier to read. Do not set the column width or margins explicitly, let L<sup>A</sup>T<sub>E</sub>X decide what it should look like.

Don't use any fancy packages that will turn your report into a Christmas tree, keep it simple!

### sections

Since this is a small report I can omit having numbered sections and you do this by using section commands that end with a \*. You can of course have subsections etc.

# Grading

- 2: - well done (or at least ok)
- 1: - make up, fix withing three days
- 0: - fail, come back next year

*Continuous examination does not mean eternal examination.*

# Questions

Do ask questions!

- in or after lectures
- help sessions on Wednesdays
- Canvas discussion board

*Do not email me with questions related to assignments etc, use Canvas discussions.*