# Principles of Software Programming

# Lecture 8: Grand recap

Anton Yeshchenko
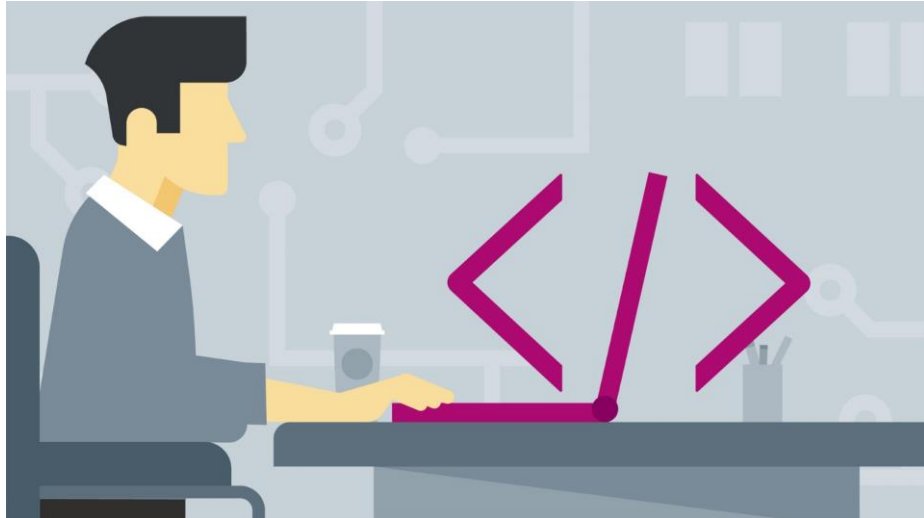SS 2018

WU
WIRTSCHAFTS
UNIVERSITÄT
WIEN VIENNA
UNIVERSITY OF
ECONOMICS
AND BUSINESS

# Today!

- **Recap:**
  - Programming
  - Basics and types
  - Control flow and functions
  - Lists
  - Classes
  - Inheritance
  - Information hiding
  - Object oriented programming
- **Exercises and exam questions**

HTTPS://CDN.LYNDA.COM/COURSE/83603/83603-
636216266356158373-16X9.JPG

# Let's make one exercise!

- About violin

# Programming

- Algorithms

- syntax and semantics

- Programming

- Compiler - a program that converts instructions into a machine-code or lower-level form so that they can be read and executed by a computer.

- Interpreter - is a computer program that directly executes, i.e. *performs*, instructions written in a programming or scripting language, without requiring them previously to have been compiled into a machine language program

SAMPLE FOOTER

# Basics and types

- Variables
- operations
- primitive data types
- Strings
- static vs dynamic typing
- explicit vs implicit type casting

# Control flow and functions

- if-else branches
- Loops
- functions (parameters, return values)

# Control flow and functions

- if-else branches
- Loops
- functions (parameters, return values)

# Lists

- Arrays (lists)
- create and fill Arrays
- multidimensional Arrays

# Classes

- Class vs Instance of class
- Objects
- create objects
- instance variable
- Constructor
- method overloading

# Inheritance

- inherit classes
- method overriding
- problems and solutions for multiple inheritance

# Information hiding

- variable access
- access modifier (Java) and naming conventions
- get- and set-methods
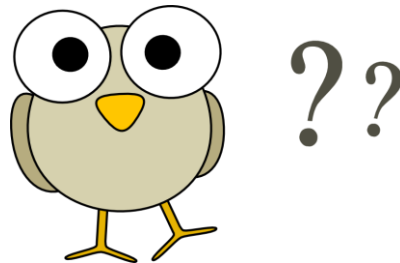
# Object oriented programming

- why OOP
- inheritance ("is-a"- and "is-part-of"-relations)
- information hiding/encapsulation
- abstract classes
- Super-constructor
- polymorphism

SAMPLE FOOTER

# Ex.1: Happy Birthday!

- ask user for name and age
- show the year when user will turn 100 years old

https://pixabay.com/en/cane-elder-elderly-grandfather-1293369/

# KAHOOT quiz!

# Any app can be made from what we know.

# Homework, feedback about the course.

- /ˈfiːdbak/

- information about reactions to a product, a person's performance of a task, etc. which is used as a basis for improvement.

HTTP://SCREENPRISM.COM/ASSETS/IMG/ARTICLE/JOY_TIGGER.PNG

HTTP://SCREENPRISM.COM/ASSETS/IMG/ARTICLE/JOY_TIGGER.PNG

WU WIRTSCHAFTS
UNIVERSITÄT
WIEN VIENNA
UNIVERSITY OF
ECONOMICS
AND BUSINESS

HTTPS://I.YTIMG.COM/VI/UC14YG3_GVW/MAXRESDEFAULT.JPG

HTTP://NOW.WKTV.ORG/WP-CONTENT/UPLOADS/2015/07/INSIDE-OUT-2.PNG

- Thank you for attending Spring edition of Principles of programming!

SAMPLE FOOTER

SAMPLE FOOTER

# Homework, feedback about the course.

- /ˈfiːdbak/

- information about reactions to a product, a person's performance of a task, etc. which is used as a basis for improvement.