University of Wollongong in Dubai

UNIVERSITY
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CSCI251 Advanced Programming – Dr HC Lim/Dr Abdellatif Tchantchane

Coverage

- Review past lecture – So far what have we covered?

note

- Students who fail because they do not attend lectures and are not submitting lab/lecture Programming tasks.
- Students who failed and those who just pass, can expect to have a seriously difficult time for final examinations which will be held on campus in the next coming few weeks.
- Students do not have enough practice, from now until before the final examination and also the coming Lab Quiz during week09, please take this opportunity to study and prepare of the coming final examinations. For as many as 30% of those who failed, you still have a small chance to pass, if you take things more seriously and submit all labs, lecture programming and assessment 03.

note

- If by now, you still don’t have a strong/firm understanding of object-based and OOP, then how are you going to handle generic and lambda programming?
- How are you going to deal with more advanced topics such as functors (function objects), abstract classes, interfaces, inheritances and composition?
- How are you going to deal with C++ Standard Templated Library with the core concepts of containers, iterators, algorithms and functional?

note

- Steps for problem-solving and solution design
  - Step 1: Understand the problem
  - Step 2: Design the logic / sequence / computational steps / modules
  - Step 3: Check / Display and Test

review

- Manipulators and Operators
- Data Types – All types enum, arrays, c-style strings and c++ strings etc
- Decision Making - Selections and Repetitions
- Input & Output & Streams
- Procedural Programming
- Object-based Programming – How to design UML class diagrams, prepare separate class files
- Object Oriented Programming – Inheritance and operator overloading
- C++ Exception Models (How to code the 3 models?)
- STL Libraries

review

- Function pointer
- Functors
- Generic functions
- Templated programming
- Generic programming
- Others, (each student may have own topic that they need to include in this list)

review

- Core concept of Procedural Programming
  - Data type and C++ code syntax
  - How to use <iomanip> ascii, decimal, hexdeciaml, octal, etc
  - I/O streams, file streams

- Core concept of OBP and OOP:
  - Create Header
  - Create CPP
  - Apply UML Class diagram to aid in the design
  - Apply OOP relationship
  - Understand operator overloading
  - Understand Inheritance
  - Understand Polymorphism, virtual keyword

review

- Question 1:
  - What are the 3 knowledge areas that you have learnt about this course since week01?
- Question 2:
  - What are the 3 Problems/Issues/Challenges that you are facing as of now?

summary

- Review will continue over week9 and week10
- Week11 – Lecture A – Mock Final Exam will be held.
- Students may wish to adopt this early and continuous in-class revision approach to prepare for CSCI251 Final Exam.