## Practical 7 – Classes

**Objectives:**

At the end of the lesson, the students should be able to:

* Understand constructors, destructors, attributes and member functions.
* Construct C++ classes with **.h** and **.cpp** files.

**Question 1**

Implement a class Rectangle. Provide a constructor to construct a rectangle with a given width and height, member function get\_perimeter and get\_area that compute the perimeter and area, and a member function void resize(double factor) that resizes the rectangle by multiplying the width and height by the given factor.

(P9.2, Horstmann 431)

**Question 2**

Design a class Message that models an e-mail message. A message has a recipient, a sender and a message text. Support the following member functions:

* A constructor that takes in the sender and recipient and sets the time stamp to the current time.
* A member function append that appends a line of text to the message body.
* A member function to\_string that makes the message into one long string like this: “From: Harry Hacker\nTo: Rudolf Reindeer\n…”
* A member function print that prints the message text.   
  Hint: Use to\_string.

Write a program that uses this class to make a message and print it.

(P9.14, Horstmann 432)

*-- End --*