# Department of Computing

**CS250: Data Structure and Algorithms**

**Class: BSCS 5AB**

# Lab 11: Quick Sort and Binary Heaps

**Date: 20th December, 2016**

**Time: 9am- 12pm / 2pm – 5pm**

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# Lab 11: Quick Sort and Binary Heaps

**Introduction**

Quick sort is one of the most practically used algorithms.

**Objectives**

To implement Quick sort and try to improve it for smaller sub array size and implement a Binary Heap using arrays.

**Tools/Software Requirement**

Visual Studio c++ / Java / Python

**Lab Tasks**

You are required to upload the lab tasks on LMS and the name of that tasks must be in this format YourFullName\_reg#.cpp

Remember to comment your code properly.

**Task 1**

Implement Quick Sort and implement a practical improvement by adding insertion sort for smaller sub arrays using a cutoff of less than equal to 10 items.



**Task 2**

Implement Binary Heap using Arrays. Implement the Push, Pop and Top functions.

**Deliverable**

Source code of Task 1 and 2