

Pre-work for Solving Problems with Code workshop

Congratulations on being invited to Google Dublin's 'Solving Problems with Code' workshop. In order to get the most out of the day, please review as much of the material below as you have time to, before the workshop. If you are already familiar with this material, feel free to skip it.

Be familiar with algorithmic analysis - time and space complexity, Big O notation.

<http://algs4.cs.princeton.edu/lectures/14AnalysisOfAlgorithms.pdf>

Be aware of some of the commonly-used data structures.

<http://www3.cs.stonybrook.edu/~algorithm/video-lectures/1997/lecture5.pdf>

Optional:

<http://algs4.cs.princeton.edu/lectures/13StacksAndQueues.pdf>

<http://algs4.cs.princeton.edu/lectures/24PriorityQueues.pdf>

<http://algs4.cs.princeton.edu/lectures/34HashTables.pdf>

Be aware of graph data structures and some basic algorithms:

<http://www3.cs.stonybrook.edu/~algorithm/video-lectures/2007/lecture10.pdf>

<http://www3.cs.stonybrook.edu/~algorithm/video-lectures/2007/lecture11.pdf>

<http://www3.cs.stonybrook.edu/~algorithm/video-lectures/2007/lecture12.pdf>

If you prefer to watch video lectures there are recordings on these topics available at:

<http://www3.cs.stonybrook.edu/~algorithm/video-lectures/>

For each data structure you learn, think about:

- What operations it supports
- How each operation performs
- How much space it uses
- How it compares with other data structures that provide similar operations - why would you use one, rather than the other?

Similarly, for algorithms:

- What do they do?
- How do they perform?
- Why would you use one algorithm over another that does something similar?