Randomized Algorithms - 2014

Prof. Flávio Keidi Miyazawa

Informations about the course

- Topics
- Evaluation
- Office Hours
- Lists of Exercises
- Slides [4 slides by page]
- Important dates
- Knuth talking about Randomized Algorithms (made available by Hsueh-I Lu)
- Theoretical Computer Science Cheat Sheet by Steve Seiden
- Bibliography

Links about randomized algorithms

- Wikipedia

Topics

- Basic concepts in probability.
- Moments and Deviations.
- Tail Inequalities.
- Ball, Bins and Random Graphs.
- The Probabilistic Method.
- Markov Chains and Random Walks.
- Applications in graphs, data structures, optimization, game theory, etc.

Office Hours

Monday: 13-14hs, room 30, building IC1.

Evaluation

The grade $T$ is the average score of seven small tests (one for each chapter). The grade $A$ is the average grade for the oral presentation (one by student) and class participation in other seminars. The grade $L$ is the average score of seven lists of exercises. To obtain the score of a list of exercises, the professor will correct the same exercise of the list (randomly selected) for all students. The value $N$ is equal to $(2T+A+L)/4$. Students of the course MC738 can perform an additional exam ($E$), only if $N<5.0$. In this case, the final grade is equal to $(N+E)/2$. For graduate students, the final grade is computed using the following table conversion.
<table>
<thead>
<tr>
<th>Value of N</th>
<th>Final grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N \geq 8.5$</td>
<td>A</td>
</tr>
<tr>
<td>$7.0 \leq N &lt; 8.5$</td>
<td>B</td>
</tr>
<tr>
<td>$5.0 \leq N &lt; 7.0$</td>
<td>C</td>
</tr>
<tr>
<td>$N &lt; 5.0$</td>
<td>D</td>
</tr>
</tbody>
</table>

**List of Exercises**

- **List 1.**

**Important dates**

- Tests: next class after the deadline of the corresponding list of exercises.
- Lists of exercises: at least one week for each list.

**Bibliography**


- Papers on the subject.