**Project Team for Course # CS 4287-5287**

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**PROJECT TITLE**

**A Cloud-based Educational Competitive Programming Website\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**TEAM MEMBERS (Alphabetical Order)**

NAME, MAJOR(S) only

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**ADVISER(S)**

NAME, TITLE

1. Aniruddha Gokhale, Professor of Computer Science and Engineering

**SPONSOR**

1. Department of Electrical Engineering and Computer Science

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**Put PROJECT Illustration Here:**

* Original illustration (high resolution photo, drawing, schematic, etc., but no clipart)
* Make sure that this image is cleared by your advisors or sponsors
* No pictures of your group unless shown working on the design project, which should be the emphasis
* Details and text labels easily read if printed at 8 cm by 4 cm
* A specific caption that stands alone and explains the illustration without relying on the text

**Project Illustration caption here:**

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**Text for your project Narrative:**

Worldwide, the demand for technical jobs continues to grow, yet a variety of barriers to entry, ranging from a psychologically steep learning curve to physically expensive computer hardware, dissuade students from pursuing Computer Science. The team developed a website to make programming entertaining and easily accessible. In a classroom environment, students enter the teacher’s generated class ID, complete an appropriate programming problem, and receive the output from their code executed in the cloud. To promote competitive drive, students are then ranked by various statistics such as time to first successful execution, average run-time, least lines of code, etc.

Compared to similar solutions such as LeetCode, our website emphasizes classroom engagement and group competition. Additionally, compared to a traditional classroom environment, the cloud enables fast, easily joinable sessions without the need for every student to have a laptop and take time to setup a complicated, confusing programming environment. The planned design runs on Amazon Web Services in the cloud using Kubernetes to orchestrate tasks among Docker workers executing the user code. Ideally, the solution would be used in situations such as STEM summer camps, club interest meetings, AP Computer Science classes, interview prep, technology company on-campus visits, etc.