TJHSST Senior Computer Team

September 30, 2011

1 Introduction

Welcome to the TJHSST Senior Computer Team, widely regarded as one of the most awesome high school computer teams in the United States! We meet weekly to practice and enhance problem-solving skills involving programming. Our focus is on the USA Computing Olympiad (USACO), but we also compete in several other programming contests. Over the year, we hope that you will all remain with us as we learn and compete together.

2 Contact

- Sponsor: Mrs. Kim

- Captain: Alex Chen

- Co-Captain: Saketh Are

- Co-Captain: Albert Gural

- Statistician: Aziz Yusupov

Be sure to visit our website at `activities.tjhsst.edu/sct` for more information, copies of lectures, an up-to-date calendar, and the SCT Grader. In addition, **please join our** `mailing list` at `lists.tjhsst.edu/cgi-bin/mailman/listinfo/scteam` or by emailing Alex. We will provide somewhat frequent updates throughout the school year, notifying you about computer team events and other programming competitions.

3 Schedule

Computer Team meets every **Friday during 8th period (B block)**. We also hold after-school sessions on some Fridays from 4:00 PM to 6:00 PM. Occasionally, we will have after-school and weekend contests. Check the calendar on the website for more information.

A typical meeting will consist of lectures pertaining to USACO topics. There will always be at least two lectures, often three, for people of every skill level. (If you would like to give a guest lecture, contact any of the officers with your topic and we will consider it.) Other meetings might include going over practice problems or taking contests.

Freshmen should also consider joining the Freshman Computer Team, led by Mr. Rose on Friday A-blocks. Others should join the Intermediate Computer Team, sponsored by Ms. Luxenberg. These two computer teams compete in a separate set of contests (primarily ACSL, the American Computer Science League), so you'll get a different experience with them.

4 Contests

USACO The USA Computing Olympiad is by far the most important contest we compete in. The USACO holds 7 online programming competitions held over a weekend each month from October through April and mostly taken at home. Competitors are placed into three divisions (Bronze: beginner, Silver: advanced, and Gold: genius) based on skill level but can work their way up to the elite Gold division by performing well on contests. At the end of the year, top high school competitors in the Gold division are chosen to attend the invitational camp in South Carolina. This is very fun and you get the chance to meet programmers from around the country! You should all aim to qualify for this camp. For these contests, you may use **C, C++, Java, or Pascal**. Everyone should participate!

- `http://train.usaco.org` Register now! The USACO Training Pages are the best available online resource for learning your algorithms and are great preparation for USACO and computer science in general.
- `http://contest.usaco.org` The portal for USACO contests. The first contest is not until late October but there are demo contests available if you want to check out the interface.

ACM-Style Contests Both of these contests allow us to send a four-person team, chosen based on USACO performance and grader rankings. During the contest the team members work together to solve programming challenges. No person will attend both. **Java is the primary language**.

- **UMD HSPC** The University of Maryland High School Programming Contest is a contest to be held on Saturday, April 21st, at UMD.
- **VCU HSPC** The Virginia Commonwealth University High School Programming Competition is a contest to be held in March, at VCU, on a Friday. TJ also traditionally sends a freshman and intermediate team to this competition.

NACLO The North American Computational Linguistics Olympiad is a two-part exam used to select people to represent the United States at the International Olympiad in Informatics. No linguistics knowledge is necessary, and this is similar to a logic tests. The two exams are taken on two school days.

IDT A local company, Innovative Defense Technologies, sponsors fun contests for high schoolers related to automated software testing. The previous contest consisted of creating a program to automate window tracking on a computer. We will let you know when the next contest comes.

Others: TopCoder (`http://community.topcoder.com/tc`) is a very popular online competition that occurs bi-weekly. The Croatian Olympiad in Informatics (**COCI**; `http://www.hsin.hr/coci/`) is like USACO for Croatia. **CodeCup** (`http://www.codecup.nl/intro.php`) involves programming an AI for a special game (different each year).

5 The Grader

The SCT Grader (`http://activities.tjhsst.edu/sct/grader/`) is your friend! The best way to get better is to practice, and the grader allows you to submit solutions to practice problems in a contest-like environment. All SCT members should register for an account and try the A+B problem. Occasionally, we will hold contests on this interface. The Grader will also play a role in lettering.

6 Lettering

Lettering will be determined by a to-be-determined standard. In order to letter, we expect you to be present at the majority of our meetings, perform to the best of your efforts on USACO contests, and solve problems on the SCT Grader. At the end of the year, we guarantee that everyone who deserves to letter will letter.

7 Have Fun!