Frequently Asked Questions about the USA Computing Olympiad (USACO)

1. *What is USACO?*

   USACO is an online computer programming contest for high school (or younger) students. USACO is one of several national high-school Olympiads in the USA that select teams of students to participate in their respective International Science Olympiads. Along with USACO, the most prominent are the USA Mathematics Olympiad (USAMO), the US Physics Team , the US National Chemistry Olympiad (USNCO) , and the USA Biology Olympiad (USABO).

2. *Who can take the USACO contests?*

   Any mid/high school student with a certain programming skills can try the contest. It has four levels of difficult, from relatively easy to very hard. However, there is no penalty for trying, and students can keep improving at their own paces.
   We have a series of courses designed for preparing students for the USACO contests.

3. *When and where to take the USACO contests?*

   The contest is entirely online at www.usaco.org. There are four contests during 4 weekends each year, usually from December to March. Each contest lasts 3-5 hours long.

4. *How do I register for the contest? How much does it cost?*

   Students who want to participate in the USACO contests can register an account on www.usaco.org for free. Participating in the contests are all free of charge.

5. *Can I work in a group? Do I have to be on a school team?*

   No. You must compete as an individual. You cannot work in a group or school team during a contest. However, you can prepare for the contests with anyone you like.

6. *Do I get an award for the contests?*

   There is no "prize" for the contests. You will receive recognition by advancing to higher divisions in USACO, and your name will be officially listed in the contest results for public record. It's great accomplishment moving up even by one division in the contests, and it's worth mentioning in applications and resumes.

7. *What are the different divisions (levels) of the USACO contests?*

   USACO currently has four divisions: Bronze, Silver, Gold, and Platinum. All competitors start in Bronze division. Competitors may be promoted to the next level by achieving sufficiently high score. Each division is significantly

more difficult than the previous one. It requires a lot of hard work, practice, and attempts to advance to the next division, usually a year or more for each division.

8. *How prestigious are the USACO achievements comparing to other contests or Olympiads?*

    It's hard to quantify or compare between different Olympiads. We would argue that achieving Gold division in USACO is a slightly higher accomplishment than AIME (if you are familiar with Math Olympiads) since there are usually only 500-600 students can make to the Gold and Platinum divisions each year. Achieving USACO Platinum should be a comparable accomplishment to making to USAMO, although it's undeniable that UASMO has larger influence. In the entire 2017-2018 contest season, only 94 students nationwide were promoted from Gold to Platinum.

9. *What programming languages are used in the USACO contests?*

    Four programming languages can be used in USACO contests: C++, Java, Python, Pascal. C++ is usually the most widely used programming language for competitive programming.

    We choose Python as the starting language for students competing in Bronze and Silver divisions. Python is widely used and easy to learn for beginners. It lets students to concentrate more on problem solving skills instead of tedious language details. After reaching Gold, if students are committed to higher levels in USACO, we start to use C++ as the programming language.

10. *Why learning the USACO contest skills are very useful?*

    To achieve high score in USACO contests, programming is only a small part of skills required. It requires more analytical and problem solving skills: logic and creativity. It requires many of the core computer science knowledge. The talent with such knowledge and skills are being sought by high-tech companies such as Google and Amazon, etc. A USACO competitor in the Gold division can easily beat most of the interview problems by those companies.

11. *My child has learned some/a lot programming already, can s/he skip the basic class and start from the intermediate level class?*

    We encounter this question many times. We strongly suggest that your child starts from the basic class. Although there are many things that your child may already have learned, there are many things and skills that your child has NOT learned in the basic class. Our classes are very challenging and require a lot of hard study and practice. It's very likely that your child may feel frustrated or left behind if s/he starts from the middle of our class.

关于美国计算机奥林匹克（USACO）的常见问题解答

1.什么是 USACO？

USACO 是针对高中（或年轻）学生的在线计算机编程竞赛。 USACO 是美国几个全国高中奥林匹克竞赛之一，选择学生团队参加各自的国际科学奥林匹克竞赛。与 USACO 一起，最有名的是美国数学奥林匹克（USAMO），美国物理奥林匹克，美国化学奥林匹克（USNCO）和美国生物奥林匹克（USABO）。

2.谁可以参加 USACO 比赛？

任何具有一定编程技能的中/高中学生都可以参加比赛。它有四个难度级别，从相对容易到非常难。但是，尝试不会受到惩罚，学生可以按自己的进度不断提高。
我们有一系列课程，旨在帮助学生为 USACO 比赛做好准备。

3.何时何地参加 USACO 比赛？

比赛完全在线 www.usaco.org。每年的 4 个周末有四场比赛，通常是 12 月到 3 月。每场比赛持续 3-5 个小时。

4.如何注册比赛？它要多少钱？

想参加 USACO 比赛的学生可以在 www.usaco.org 上免费注册一个账户。参加比赛都是免费的。

5. 我可以以一个团队参加比赛吗？我必须在校队吗？
不，你必须作为个人参与竞争。在比赛期间，你不能以小组或团队参加竞赛。但是，你可以与任何你喜欢的人一起**准备**比赛。同时，你不必在任何校队中。

6.比赛有什么奖品？

比赛没有"奖品"。您将通过升级到 USACO 的更高级别获得认可，您的名字将正式列入比赛结果中以进行公开记录。在竞赛中，即使升级一个级别，也是取得了很大的成就，在升学和简历中都值得一提。

7. USACO 比赛的不同级别有哪些？

USACO 目前有四个级别：青铜级，银级，金级和白金级。所有参赛者都从青铜赛区开始。通过获得足够高的分数，竞争者可以提升到新的级别。每个级别都比前一级别困难得多。参赛者需要大量的努力，练习和尝试才能前进到下一个级别，通常每个级别需要一年或更长时间。

8.与其他比赛或奥林匹克竞赛相比，USACO 的成就有多重要？

不同的奥林匹克竞赛成绩很难量化或比较。通常认为，在 USACO 中获得金级成绩比 AIME 略高（如果您熟悉数学奥林匹克竞赛），因为通常每年只有 300-500 名学生可以进入金和白金级别。进入 USACO 白金级别应该是与

USAMO 相媲美的成就，尽管 UASMO 具有更大的影响力是不可否认的。在整个 2017-2018 赛季中，全国只有 94 名高中学生从金牌升级到白金级。

9. USACO 竞赛中使用了哪些编程语言？

在 USACO 竞赛中可以使用四种编程语言：C ++，Java，Python，Pascal。 C ++通常是竞争性编程中使用最广泛的编程语言。

我们选择 Python 作为参加青铜和白银级别的学生的起始语言。 Python 被广泛使用并且易于初学者学习。它让学生更专注于提高解决问题的能力，而不是繁琐的语言细节。达到 Gold 之后，如果学生在 USACO 中想要晋升到更高级别，我们就开始使用 C ++作为编程语言。

10.为什么学习 USACO 比赛编程技巧非常有用？

为了在 USACO 比赛中获得高分，编程只是所需技能的一小部分。它需要更多的分析和解决问题的能力：逻辑和创造力。它需要许多核心计算机科学知识。具有这些知识和技能的人才正在被谷歌和亚马逊等高科技公司所追捧。能够达到 USACO 金级的竞赛者可以很容易地击败这些公司的大多数面试问题。

11.我的孩子已经学过一些/很多编程，他/她可以跳过基础课并从中级课开始吗？

我们多次遇到这个问题。我们强烈建议您的孩子从基础班开始。虽然您的孩子可能已经学到很多东西，但是在基础课中有许多您的孩子还没有学到很多东西和技能。我们的课程非常具有挑战性，需要大量的学习和练习。如果他/她从我们班级中间开始，您的孩子很可能会因为落后而感到沮丧并失去兴趣。