2025 年臺大盃全國中學生程式設計競賽 初賽規則
2025 NTU Cup
National Secondary School Programming Contest, Rules of Preliminary Round

1. 各隊伍之指導老師需負責證明學生之身分及比賽規則之遵守。
   The team's instructor is responsible for verifying the students' identities and ensuring adherence to the competition rules.

2. 參賽隊伍必須登錄到競賽平台以提交解答,因此須自行準備網際網路（互聯網）方案。但比賽期間不得使用網際網路（互聯網）存取試題平台以外的資源。
   Teams must log into the contest platform to submit their solutions, and they must arrange their own internet connection. However, during the competition, access to any resources other than the contest platform is prohibited.

3. 比賽時間為 23/8/2025 15:00 至 17:00。
   The competition will take place on August 23rd, 2025, from 15:00 to 17:00.

4. 晉級初賽同學**需在比賽期間全程開啟 ZOOM 的鏡頭並對著自己**,另外需更名成自己的隊伍名稱及自己的英文全名,例如【TEAM AA – YANG SMALL SHEEP】
   During the competition, students advancing to the preliminary round must keep their ZOOM camera on and directed at themselves at all times. Additionally, they need to rename the display name to their team name and their full English name. For example, [TEAM AA – YANG SMALL SHEEP].

5. 本次初賽總共有 14 道試題,每道試題皆有不同配分。題本語言以英文為主,大會額外提供中文和馬來文的翻譯,但若對題目有疑義、或者各語言

的題意有差異時，**以英文版為準**。

There are 14 problems in the preliminary round, each with different scoring weights. The problem statements are primarily in English, with additional translations provided in Chinese and Malay. In case of any discrepancies or ambiguities between the languages, **the English version will prevail**.

6. 比賽期間若參賽者有任何對試題的問題，須通過競賽平台提問。任何針對題目的修正皆會在競賽平台上公告，隊伍需要自行留意。

If contestants have any questions about the problems during the competition, they must ask through the contest platform. Any corrections to the problems will be announced on the platform, and teams are responsible for monitoring these announcements.

7. 比賽期間，參賽者可以任意參考所帶的紙本參考書以及筆記上的資料，但嚴禁使用網際網路（互聯網）搜尋任何資料！也不得使用任何具計算或通訊功能之機器、或機器可讀之資料，包含但不限於智慧型手機、平板等，且不得以生成式 AI 模型產生程式碼。一經發現，大會有權取消該隊伍的參賽資格。

Contestants are allowed to refer to any printed books or notes they have, but are strictly prohibited from using the Internet to search for any information. The use of any electronic devices with computational or communication capabilities, including but not limited to smartphones and tablets, is forbidden. Additionally, the generation of code using generative AI models is not allowed. If any such activities are discovered, the team may be disqualified.

8. 在比賽時間，參賽者除與同隊隊員或本比賽之工作人員聯絡外，不得與其他人員以任何方式交談或聯繫。

During the competition, contestants are only allowed to communicate with their teammates or the competition staff. They are not permitted to communicate with anyone else in any form.

9. 參賽隊伍可隨意選取試題作答，並在比賽時間內，隨時通過競賽平台繳交解答以進行測試。

Teams can choose any problem to solve and submit their solutions through the contest platform for testing at any time during the competition.

10. 繳交的解答必須是原始碼（源代碼，Source Code）。大會規定可使用的程式語言為 C、C++、Java 或 Python，其對應的編譯器版本及參數如下：

Submitted solutions must be in the form of source code. The allowed programming languages are C, C++, Java, or Python, with the following compiler versions and parameters:

- Judgehost
  - gcc 12.2.0 (Debian 12.2.0-14+deb12u1)
  - g++ 12.2.0 (Debian 12.2.0-14+deb12u1)
  - java:
    - OpenJDK Version "17.0.15" 2025-04-15
    - OpenJDK Runtime Environment (build 17.0.15+6-Debian-1deb12u1)
    - OpenJDK 64-Bit Server VM (build 17.0.15+6-Debian-1deb12u1, mixed mode, sharing)
  - Python:
    - Python 3.9.16 (7.3.11+dfsg-2+deb12u3)
    - PyPy 7.3.11 with GCC 12.2.0
- Compile Commands
  - C:
    ```
    gcc -x c -Wall -O2 -static -pipe -o "$DEST" "$@" -lm
    ```
  - C++:
    ```
    g++ -x c++ -std=gnu++20 -Wall -O2 -static -pipe
    -o "$DEST" "$@"
    ```
  - Java:
    ```
    java -Dfile.encoding=UTF-8 -XX:+UseSerialGC
    -Xss${MEMSTACK}k -Xms${MEMLIMITJAVA}k
    -Xmx${MEMLIMITJAVA}k '$MAINCLASS' "$@"
    ```

11. 提交解答後，系統會安排評測並告知答案是「對」或是「錯」。

    After submitting a solution, the system will evaluate it and notify whether the answer is "correct" or "incorrect".

    - 答案為「對」時，系統會以「CORRECT」作為回答

      If correct, the system will respond with "CORRECT".

    - 答案為「錯」時，系統會以下列其中一種形式作為回答：

      If incorrect, the system will respond with one of the following:

      - WRONG-ANSWER：程式正常結束，但輸出並不正確

        WRONG-ANSWER: The program terminated normally, but the output was incorrect.

      - TIMELIMIT：程式執行超出題目規定的時限

        TIMELIMIT: The program exceeded the time limit specified by the problem.

      - RUN-ERROR：程式不正常結束（回傳值非 0），若記憶體用量超出題目規定的上限，也會以 RUN-ERROR 做為回答

        RUN-ERROR: The program terminated abnormally (non-zero return value). If the memory usage exceeded the problem's limit, it will also be marked as RUN-ERROR.

- OUTPUT-LIMIT：程式輸出的資料超出上限
  OUTPUT-LIMIT: The program output exceeded the limit.

- NO-OUTPUT：程式沒有輸出
  NO-OUTPUT: The program did not produce any output.

12. 競賽平台使用「Lazy Evaluation」，在單一題目內會有多組測試資料，當程式測試到一半時有任何一筆測試資料獲得「錯」的答案，測試將直接被中止，並回答對應的錯誤形式。
The contest platform uses "Lazy Evaluation". Each problem contains multiple test cases, and if any test case results in an incorrect answer, testing will stop immediately, and the corresponding error message will be returned.

13. 「錯」的答案不會被扣分；「對」的答案會被記錄，並在比賽結束後驗證檢查。若無任何問題，分數將被累積到所屬隊伍之中。
Incorrect answers will not result in a score deduction. Correct answers will be recorded and subject to later verification. If there are no issues, the points will be added to the team's total score.

14. 參賽隊伍可以嘗試解答同一道題，但即使多次答對，該隊也只能獲得一次分數，而不會重覆得分。時間以最早提交答對的那一次為準。
Teams can attempt to solve the same problem multiple times, but even if they solve it correctly more than once, they will only receive points once, based on the earliest correct submission.

15. 比賽結束時，一支隊伍的得分，是該隊答對題目的分數的總和，但同題不重覆計分。
At the end of the competition, a team's score will be the total points for the correctly solved problems, without duplicating points for the same problem.

16. 本次預賽以分數高者為主要排名依據，同分數者，則以使用時間作為排名依據，使用時間是**每一道題首次答對時間的總和**，而使用時間少者有較高的排名。若兩支隊伍得分相同，則以較少的使用時間者有較高的排名。
The final ranking of the preliminary round will be based on the highest score. In case of a tie, the team with the shorter total time will be ranked higher. The total time is calculated as **the sum of the times when each question is first correctly solved.** In the case of a tie, the team with the shorter total time will be ranked higher.

17. 我們將選出 60 隊隊伍晉級總決賽，每所學校最多選出排名前 3 支隊伍晉級決賽（如果 3 名隊員均來自同一所學校，則該隊伍視為單一學校隊伍）。跨校隊伍不受此限制。為鼓勵初中學生（Form 1 至 Form 3），每所學校可額外 2 支由本校初中生組成的隊伍晉級決賽。

    A total of 60 teams will be selected to advance to the final round. Each school may have at most the top 3 ranked teams from that school advance (if all 3 members of a team are from the same school, the team will be considered a single-school team). This restriction does not apply to cross-school teams. To encourage junior secondary students (Form 1 to Form 3), each school may have an additional 2 teams composed entirely of junior secondary students advance to the final.

18. 初賽中排名前六的初中組隊伍（三名學生都是初中，Form 1 至 Form3 組成）將獲得證書、獎牌及現金獎勵。

    The top six junior secondary teams in the preliminary round (teams composed entirely of three junior secondary students, Form 1 to Form 3) will receive certificates, medals, and cash prizes.

19. 大會預計於 27/8/2025 公布最終成績與晉級隊伍名單。

    The final results and the list of teams advancing to the final round are scheduled to be announced on August 27th, 2025.

20. 大會保留一切更改以上注意事項以及規則的權力。一切規則將以大會即時公布為準。一切事宜，大會的決定將是最終的決定。

    The organizers reserve the right to make changes to the above rules and policies at any time. All decisions made by the organizers will be final.