國立台灣大學馬來西亞校友會
Persatuan Siswazah-Siswazah Universiti Kebangsaan Taiwan, Malaysia
Alumni Association Of National Taiwan University, Malaysia
4-2, Jalan Bandar Lima Belas, Pusat Bandar Puchong, 47100 Puchong, Selangor, Malaysia. Email:

Proposal Of National Secondary School Programming Contest 2025 (NSSPC 2025)

1. NSSPC Background

In response to global transformations, particularly after the pandemic, the Alumni Association of National Taiwan University, Malaysia (AANTUM) recognizes programming as a vital skill for students. To address this need, AANTUM, in collaboration with Universiti Tunku Abdul Rahman (UTAR) and National Taiwan University (NTU), established the National Secondary School Programming Contest (NSSPC).

NSSPC is a project-based contest that emphasizes practical programming skills. Its multi-level learning approach supports students of all proficiency levels—from beginners to advanced coders—encouraging continuous skill development. The team participation model (groups of three) fosters collaboration, problem-solving, logical thinking, and effective communication, equipping students for real-world challenges.

NSSPC, now in its fifth year, aims to enhance programming skills among Malaysian secondary school students, supporting national digital development goals. The contest provides an academically rigorous platform, offering guidance from NTU, UTAR, and industry experts. It focuses on programming, problem-solving, and teamwork, fostering tech-savvy students who will contribute to Malaysia's technological and economic growth.

2. NSSPC Organization

The operations team consists of the Alumni Association of National Taiwan University Malaysia (AANTUM), National Taiwan University (NTU), and Universiti Tunku Abdul Rahman (UTAR). The guiding committee is composed of experts in related fields, as listed below:

Unit Panduan	Tetamu Khas & Kepakaran		
National Taiwan University (NTU)	**Professor Tsai, Hsin-mu** (Jawatan : Timbalan Naib Presiden untuk Hal Ehwal Akademik / Pengarah, Pusat IOX) (Professor : Sains Komputer, Kejuruteraan Maklumat dan Penyelidikan Delta) (Kepakaran Penyelidikan: Komunikasi Tanpa Wayar Kenderaan, Sensor Tanpa Wayar) (Anugerah Kecemerlangan Penyelidikan Delta dari Pusat AI Delta Electronics) **Professor Huang, Shang-en** (Professor: Jabatan Sains Komputer dan Kejuruteraan Maklumat) (Kepakaran Penyelidikan: Algoritma Graf dan Struktur Data, Algoritma Graf Selari dan Teragih)		
Universiti Tunku Abdul Rahman (UTAR)	**Prof. Ts Dr. Liew Soung Yue (Dean: Fakulti Teknologi Maklumat dan Komunikasi)**	Dr. Jasmina Khaw Yen Min Dr. Kh'ng Xin Yi Dr. Tan Joi San Ts Dr. Phan Koo Yuen Ts Dr. Tong Dong Ling Ts Ms. Lai Siew Cheng	Dr. Teoh Shen Khang Ms. Tan Lyk Yin Mr. Sor Kean Vee
Penasihat	**Teoh Boon Hai** (Advisor, Mantan Timbalan Ketua Nazir Sekolah) **James JM Buu** (Timbalan Ketua Misi Pejabat Ekonomi dan Kebudayaan Taipei di Malaysia) **Charlin Chang** (Pengarah Bahagian Pendidikan Pejabat Ekonomi dan Kebudayaan Taipei di Malaysia)		

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3. Mission

The NSSPC 2025 is an extracurricular programming contest for secondary school students across Malaysia. It provides students with an interest or natural talent in programming the opportunity to interact, showcase their skills, and enhance their teamwork and problem-solving abilities. The contest serves as a national platform that connects academia, industry, and the community, highlighting and supporting the aspirations of the next generation of programming professionals as they strive for excellence in advancing a scientific and technologically driven nation.

4. Purpose and Objectives

4.1. Enhance secondary school students' interest in programming to deepen their understanding of programming concepts.

4.2. Improve students' communication and reading skills to develop logical thinking, enhancing their problem-solving abilities and industry readiness.

4.3. Promote cross-school collaboration, providing a platform for students from different school streams to interact, learn, and grow together.

4.4. Bridge the gap between urban and rural schools by facilitating software and hardware exchanges, fostering ethnic unity and integration.

5. Goals

5.1. Maximize student participation by obtaining approval from KPM, JPN, and PPD to promote the event nationwide, across diverse geographical regions of Malaysia.

5.2. Ensure equitable access for all registered students by providing free programming learning platforms and pre-training online broadcasts, including for beginners. Students who meet self-study report standards can form teams and advance to the preliminaries and subsequent finals.

5.3. Engage academia, industry, and the community by involving experts from NTU, UTAR, and other industry professionals. This allows students to gain insights into future skill requirements through direct interaction with the organizing team.

5.4. Recognize and celebrate student achievements through a discussion forum and an award ceremony during the finals. The forum provides a platform for students to engage in dialogue on programming, learning, and career prospects, while the award ceremony encourages continued learning beyond the contest.

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6. Targeted Registrants

All students enrolled in Malaysian secondary schools and overseas students will be eligible to participate freely via the **NSSPC Official Website: https://nsspc.io.**

7. Programming Languages and Question Languages

The contest will feature the following **programming languages: C, C++, Java and Python**. All contest questions will be presented in English.

8. Registration Period

Students will be required to register before the contest. Registration will be open from 23 March to 12 July. After registering, students will need to log in to the learning platforms to begin their programming journey

9. Schedule and Study Execution of Contest

9.1 Online NSSPC Educational Portal

The NSSPC Educational Portal provides online broadcasts led by UTAR lecturers, the Faculty of Information and Communication Technology, and other industry professionals. Students can access course materials at their own pace and convenience. Each lecture concludes with an assessment to evaluate their understanding and ability to apply the concepts covered.

9.2 Self Programming Language Learning Platforms

To support students learning, two programming platforms will be provided:

- Sololearn (https://www.sololearn.com/)
- CodeChef (https://www.codechef.com/),
- Codeforces (https://codeforces.com/).

These platforms enable students to practice coding, enhance their problem-solving skills, and prepare for the subsequent contest effectively.

9.3 Hackathon workshop

The Hackathon workshops, which will be organized from April to September, will cover topics such as AI, Smart Agriculture, and SDGs. Students will participate in teams, engaging in team discussions and preparing presentations. These workshops aim to enhance students' problem-solving skills, foster collaboration, and provide practical insights into emerging technologies and global challenges.

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9.4 NSSPC & Hackathon Qualifying Match, Preliminary Round and Final Round

9.4.1. Students must submit their learning achievements and results on the NSSPC Educational Portal to the operation committee before 14th July 2025. Those who complete the educational portal courses will be eligible to proceed to the online preliminary round in August 2025.

9.4.2. Students must submit their Hackathon project proposal in hard copy to the organizing committee by 28 June 2025. Students whose proposals pass the proposal selection stage will qualify for the preliminary online presentation. Teams that pass the online presentation will be eligible for the final round and will undergo a two-month mentorship program led by a team of UTAR professors, including participation in three workshops. Finalists will present and explain their implemented projects during the Grand Final.

9.4.3. The Final Round of NSSPC & Hackathon will be held in person on 19th and 20th September 2025.

9.4.4. Final Round Venue: Chung Hua High School Seremban (CHHS)
Jln Tun Dr. Ismail, Taman Unian, 70200 Seremban, Negeri Sembilan, Malaysia.

9.5 Team Formation

9.5.1. Teams consisted of three students, and members did not need to be from the same school. Cross-school teams were encouraged.

9.5.2. There was no limit on the number of registrations for the competition. However, during the finals, each school could register a maximum of 3 teams (if all three members were from the same school, they would be considered a single school team). There was no limit on cross-school teams.

9.5.3. To encourage participation from Form 3 or below grade students, each school was allowed to register 2 additional teams consisting of junior students from the same school.

10. Awards

10.1. Certificate

Upon achieving a passing grade in Preliminary Round and Final Round of NSSPC and Hackathon workshop , a prestigious certification will be awarded.

10.2 NSSPC Junior Excellent Awards

The top 6 teams in the preliminary round of the junior school division (consisting of three team members from Form 3 and below grade) will be awarded certificates, medals, and cash prizes。

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10.3. NSSPC Exellence Awards

To acknowledge the exceptional performance of participants, the following Excellence Awards for the NSSPC will be granted :

- Champion (per team): RM3000/=, certificates, and medals.
- Runner-up (per team): RM1800/=, certificates, and medals.
- Second Runner-up (per team): RM1500/=, certificates, and medals.
- Third Runner-up (per team): RM1200/=, certificates, and medals.
- Fourth Runner-up (per team, total of 6 teams): RM900/=, certificates, and medals.
- Junior Excellent Awards(per team, total of 6 teams): RM600/=, certificates, and medals.

10.4. Hackathon Workshop Exellence Awards

To acknowledge the exceptional performance of participants, the following Excellence Awards for the Hackathon workshop will be granted :

- Champion (per team): RM2,400/=, certificates, and medals.
- Runner-up (per team): RM1,500/=, certificates, and medals.
- Second Runner-up (per team): RM1,200/=, certificates, and medals.
- Third Runner-up (per team): RM900/=, certificates, and medals.
- Fourth Runner-up (per team, total of 2 teams): RM600/=, certificates, and medals.

11. The technical and judging teams and procedures

The NTU and UTAR teams jointly directed the technical and judging teams for the NSSPC contest. The Judging Director handled problem selection and criteria, while the Operation Team Leader acted as Finals Chief Judge. Only the NSSPC operation team could modify the contest Policies and Procedures.

12. Expected Outcomes and Significance to Students

12.1. Enhanced programming skills among secondary school students, fostering technical proficiency and problem-solving abilities.

12.2. Improved teamwork and collaboration through team-based competition, promoting communication and logical thinking.

12.3. Increased interest in technology and programming, encouraging students to pursue related fields in higher education and careers.

12.4. Exposure to industry professionals, providing insights into real-world applications of programming and future career prospects.

12.5. Nationwide student participation, fostering cross-school cooperation and promoting regional unity and collaboration.

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13. Program Flowchart

NSSPC Activities	Start Date	End Date
1. Students start registration	23th March 2025	12th July 2025
2. Students Study Preparation Training students by NSSPC Educational Portal	23th March 2025	12th July 2025
3. Programming Language Learning Platforms	23th March 2025	20th Sept 2025
4. Hackathon workshop、proposal selection、preliminary online presentation	01st Apr 2025	20th Sept 2025
5. Mid-Study Progress Evaluation Review of NSSPC Educational Portal result, preliminary results	01st July 2025	31th July 2025
6. Online Preliminary Round Team-formation completed after the preliminary round.	01st Aug 2025	31th Aug 2025
7. Final Round of NSSPC and Hackathon	19th Sept 2025	20th Sept 2025
8. Post NSSPC Review and reflection Review and reflection of student's study outcomes, objectives, and impact of future.	20th Sept 2025	20th Oct 2025