(Sc100) Let's start from SCRATCH

Course Description:
Scratch is a software that empowers users to easily combine media to create and share their own interactive stories, animations, games, music, and art. As young learners work on projects in Scratch, they learn critical 21st-century skills such as:

- Creative Thinking
- Effective Communication
- Systematic Analysis
- Design Thinking

Our thoughtfully designed module engages young learners in the design process by imagining, testing, refining and redesigning their masterpiece creations with Scratch. In the process, they learn key academic concepts, such as computational ideas and mathematics.

Details:

Date: **Time:**	9 Dec to 13 Dec (Monday to Friday) 10:30 am to 1:00 pm
Venue:	Math Arena Enrichment Centre
Address:	Blk 488B Tampines Street 45 #B1-147 Singapore 521488

Prerequisite: No coding experience needed. Basic mouse and keyboarding skills will suffice.

Recommended Age: 8 - 11 years
Session Format: 5 x 2 ½ hours
Fee: S$540

Trainer:
Mr. Dean Ang (Honours Degree, National University of Singapore, Double Major in Mathematics and Computational Science; Ex-HOD ICT of Raffles Institution and School of Science and Technology, Singapore)

Who this course is for:
This course is designed with challenge-based activities and hosted on Google's online learning platform. It is the perfect starter for young children who want a future in Coding, Game Development, or Design.

Course Outline:

Session 1 - Introduction to Scratch • Scratch Editor • Sprites • Backdrop • Basic Events • Input - Process - Output	**Session 2 - Animation** • Using Code Blocks • The Coordinates System • Motions • Wall Detection
Session 3 - Core Computing Concepts • Operators • Variables • Applications - Scores, High Score, Life Counter	**Session 4 - Game Development I** • Conditions • Loops • Clonings • The Escapa! Game
Session 5 - Game Development II • Game Types • Gravity • Develop a Platformer	

Learners will take home: Project files/Notes, badges and certificate upon completion.

Frequently Asked Questions (FAQ)

1. **What is Scratch?**
   Scratch is a visual coding software that empowers users to easily combine media to create and share their own interactive stories, animations, games, music, and art.

2. **What age group is suitable for this course?**
   The recommended age is 8 - 11 years old. Children younger than 8 years old can attend if they have acquired the basic mouse and keyboarding skills.

3. **My child is new to computers and programming. Will he/she be able to follow?**
   The course is designed for beginners with zero programming experience. To maximise the learning, the learner needs to possess basic mouse and keyboarding skills.

4. **My child is 10/11 years old and has no programming experience. Should he take the Scratch Introduction course or the Python Introduction course?**
   It depends on his level of comfort with text-based input using a laptop. The Scratch Introduction uses a block-coding interface, which is more children-friendly. Python, on the other hand, is a complete programming language that uses a text-based input.

5. **How does games development enhance computational thinking?**
   We interweave concepts such as loops and conditionals in the game-/story- creation process. Learners also apply Mathematics skills in such as Arithmetics and the coordinate systems.

6. **Do I need to bring my computer laptop or any other equipment?**
   All equipment and notes will be provided. Learners may only need to bring their water bottle and basic writing materials just in case they want to plan on a piece of paper. Do take note that learners will need an email address to create a Scratch account to save their projects.