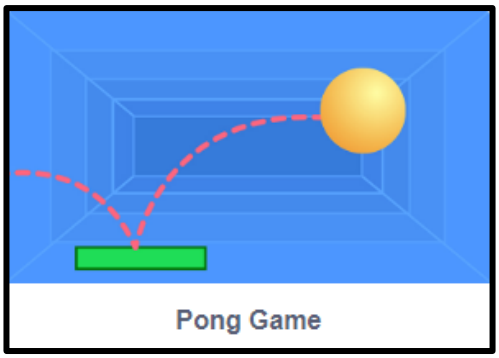
CREATE A PONG GAME

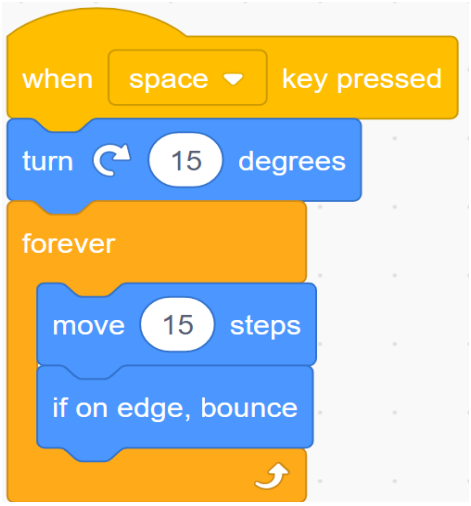
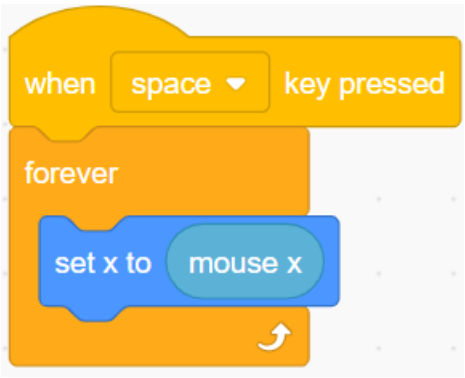
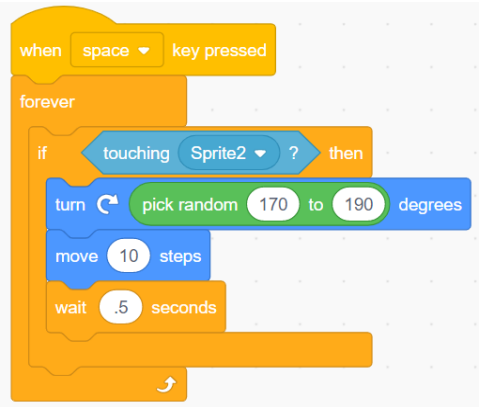
You are expected to:

- Create a moving ball bounces around the screen.
- Create a sprite paddle that moves across the screen (left and right) to hit the ball
- Keep count of amount of hits.
- Create a 2-player game.



(click the picture to go directly to the tutorial copy or the link to go to the Scratch Project website)
https://scratch.mit.edu/projects/editor/?tutorial=all

CREATING CODE

Programming the Ball to Bounce	Programming To Paddle to Move Left and Right	Programming The Paddle to Hit The Ball
		

LEARNING OUTCOMES

Expected Success Criteria
• Before coding, I can write out to create a sequence of steps (in explicit sentences, flowcharts, storyboards or mind maps) how the code will function and what will happen in my Scratch project. • I can use Scratch to create a digital solution using a visual programming platform. • I can program the ball to move around the screen and a paddle to across the screen. • I can program user input into my code by the user controlling the movement of the paddle. • I can create a scoreboard and create a message when the user misses. • I can adapt the game to create a 2-player game. • I can create a scoreboard for both players and create different messages when the users miss. • At the end of the game I can congratulate the winner.

CURRICULUM KNOWLEDGE DEVELOPMENT

Log Into https://www.acs.org.au/join-ict.html To Access The Resources
• ACS Teacher Resource: Algorithms • ACS Teacher Resource: Visual Programming • ACS Student Resource: Algorithms • ACS Student Resource: Flowcharts

Australian Digital Technologies Curriculum

Assessment	
Content Descriptions Levels 5-6	**Assessment Statement**
Design, modify and follow simple algorithms involving sequences of steps, branching, and iteration (repetition) ACTDIP019	Students represented algorithms using a flowchart/written statements to demonstrate the functions that are needed to create an interactive Pong game using the platform Scratch. Students included the branching (multiple options), user input (user interacting with the program) and iteration (repeats) in the commands.
Implement digital solutions as simple visual programs involving branching, iteration (repetition), and user input (ACTDIP020)	Students used the visual programming platform Scratch to create a simple program. Students coded musical instruments to make different tunes. The code used become complex by adding in functions that included branching (multiple options) iteration (repeat functions) and user input (decisions made by the user).

New South Wales Science and Technology Syllabus

Assessment	
Syllabus Outcomes Stage 3	**Assessment Statement**
Defines problems, and designs, modifies and follows algorithms to develop solutions (ST3-3DP-T) Design, modify and follow simple algorithms. Extend sequences of steps to provide a series of possibilities through branching Develop solutions through trialling and refining using iterations (ACTDIP019)	Students designed and created a tennis style interactive game called 'Pong' using the visual programming platform, Scratch. Students created a selection of algorithms (sequences of steps) to create an interactive game of tennis using Scratch. To increase the complexity of their algorithms, students included branching (multiple options) to their code. This was evident when the ball was missed player a sign would be displayed and when the ball was hit a different sign was displayed. Students developed their digital solution (creating an interactive tennis game). To refine their code that was repeated, students used iterations (repeats). The same code was used each time a player lost or won a point.
Implement digital solutions as visual programs involving branching, iteration and user input (ACTDIP020)	Students used the visual programming platform Scratch to create a simple program. Students coded a ball and paddle to move across the screen to create an interactive Stennis style game called Pong.

Western Australian Digital Technologies Curriculum

Assessment			
Content Descriptions Level 5	**Assessment Statement**	**Content Descriptions Level 6**	**Assessment Statement**
Develop and communicate alternative solutions, and follow design ideas, using annotated diagrams, storyboards and appropriate technical terms (WATPPS29)	Students developed a storyboard of explicit instruction to demonstrate how their Scratch program would function.	Design, modify, follow and represent both diagrammatically, and in written text, alternative solutions using a range of techniques, appropriate technical terms and technology (WATPPS35)	Students modified a design in Scratch to create an interactive tennis game to keep score. They created a flowchart that detailed their designed which included appropriate terms used for type of code they needed to include in their game.
Design, follow and represent diagrammatically, a simple sequence of steps (algorithm), involving branching (decisions) and iteration (repetition) (ACTDIP019)	They used appropriate terms to describe the functions in their code such as using branching and iteration to improve the complexity of their code.		
Implement and use simple programming environments that include branching (decisions) and iteration (repetition) (ACTDIP020)	Students used the coding platform Scratch to create an interactive tennis style game. Their program demonstrated the use of branching (options for different users) and iteration (using repeats functions to repeat code) within the code.	Implement and use simple visual programming environments that include branching (decisions), iteration (repetition) and user input (ACTDIP020)	Students used the visual programming platform Scratch to code an interactive tennis game between one or more users. The code used became complex by adding in functions that included branching (multiple options) iteration (repeats) and user input (decisions made by the user).

Victorian Digital Technologies Curriculum

Assessment	
Content Descriptions Levels 5-6	**Assessment Statement**
Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration (VCDTCD032)	Students represented algorithms using a flowchart/written statements to show how their program in Scratch (programming an interactive tennis game between one or more players) would operate. Students included the branching (multiple options), user input (one or two players controlling the paddle) and iteration (repeating commands such as when a player misses the ball) in the commands.
Develop digital solutions as simple visual programs (VCDTCD033)	Students used the visual programming platform Scratch to code an interactive tennis game between 1 or more players.