# Teaching Programming Fundamentals with Candy Catch

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## WHAT IS TAP?

The Technology Ambassadors Program (TAP) focuses on community outreach. This award-winning program also addresses a need to increase the number of students who persist in an IT major or minor, particularly those underrepresented in computing. TAP is a service-based learning course where students design a project to teach IT concepts.

## PROJECT GOAL

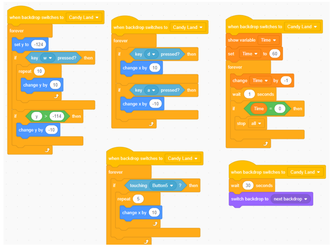
The purpose of the project is to introduce basic programming skills, and the world of IT through a fun and engaging game. Concepts taught include if-then statements, loops, variables, and conditions all within Scratch. The participants will be taught how to create a basic version of our example game, using a step-by-step tutorial.

## GAME DESCRIPTION

Candy Catch is a 2-player competitive item catching game. The goal is to catch more candies than your opponent. The characters move left, right, ,and jump to catch different items with varying point values. Players must avoid catching bad items that hurt their score. In the end, the scores are compared and the player with the higher score wins.

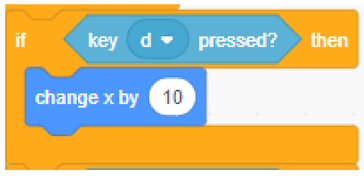
## TECHNOLOGIES

We are using Scratch, a block coding based software to introduce basic coding concepts to beginners through interactive games.



Block Coding utilizes a drag-and-drop learning environment where programmers use blocks to construct basic programs.

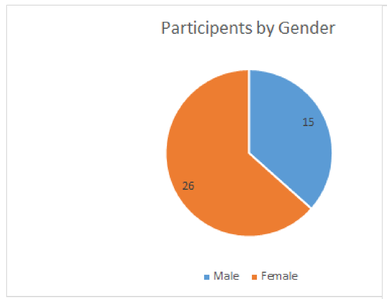
## CODE EXAMPLES

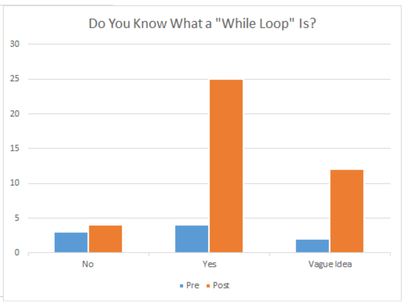


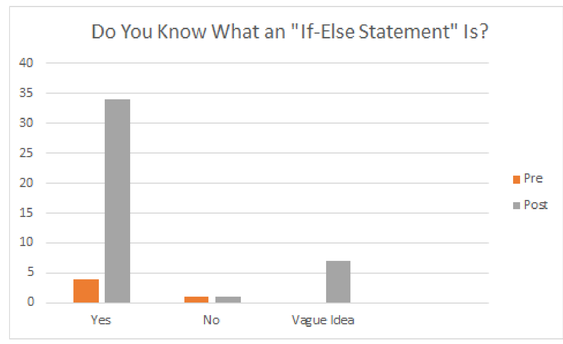

If-then statements: An if-then statement is a concept that specifies the execution of an action when a condition is true or another action is done. This if-then statement controls how the characters move. If the "d" key is pressed, then the user will move 10 spaces right.


Forever Loop: All of the code in the loop will execute forever as long as the program is running. This forever loop allows the candy in our game to constantly fall, rotate, and re spawn at the top of the screen.

## DATA




## WORKSHOPS

TAP Expo April 1st: A recruiting event held at GGC to present projects to participants through hands-on exploration.

STARS April 8th: Showcase for student research.

CREATE April 29th: Showcase for student research.

3 In-Classroom Workshops: We will be presenting our project to general IT classes (1001 & 2110).

Our workshop participants will be surveyed in order to understand if our audience has gained IT knowledge. We will analyze these results and present them at CREATE.