**Outline**

Play the original Simon game to establish a mind-set around basic game systems. Research the history of game systems. Analyze the Simon game from an input-process-output perspective.

**Objectives**

* Use the input-process-output model to solve programming problems.
* Use industry-standard programming tools (e.g., UML [Unified Modeling Language], diagrams, structure charts, flow charts, pseudocode) to develop a software project.

**Materials**

* Simon game obtained from teacher

**Level 1: Play the Simon Game**

1. Play the Simon game in your group while taking note of the following game-play items:
   1. What was your personal best score?

My personal best score was around 9. When I got nine it was very tricky to remember the colors.

* 1. What was the personal best score in your group?

In our group our best was 12 and Emil got that.

* 1. What makes it a good game?

The game was a challenge which is always a good aspect to a game. It was addicting because when I lost I wanted to keep playing and wanted to keep beating my score.

* 1. In what ways is it similar to modern computer games?

It is similar to games today because it has the same aspect where the players want to keep playing to beat each other or to beat their own scores. It probably has some of the same basic programming in it that today’s games have.

1. Play the Simon game in your group while taking note of the rules of the game:
   1. How do users input information into the game?

The users input information into the game by clicking the corresponding lights as soon as the game flashes them. The players hit the lights that flashed in the same order.

* 1. How does the game output feedback to the players?

The game outputs feedback to the players by lighting up a certain color that is randomly generated.

* 1. What are the game options for starting the game?

One option is to play solo and to go for a high score by yourself by hitting the corrected lights and overtime it gets harder and harder. There is a mode call pass it where it challenges one player and after they pass it goes onto the next the player until a player gets it wrong and is eliminated from the game.

* 1. What are the end conditions for stopping the game?

The end conditions are when a player misses the right color and gets it wrong.

**Level 2: Simon History**

Suggested web resource: http://americanhistory.si.edu/collections/search/object/nmah\_1302005

1. Research the history of the Simon game, focusing on the following questions:
   1. Who created Simon?

Simon was created by Ralph Baer.

* 1. What previous game was it based on?

It was inspired by an arcade game called touch me.

* 1. What was the first game system?

The first game system was Nintendo.

* 1. What games did it have on it?

The first game for this was Pong and then Space Invaders.

1. In your group, discuss the following questions:
   1. What is the oldest game system you have played on?

For me the oldest game system I have played on is the Nintendo 64.

* 1. How are old games different from current games?

The new games have much better graphics and can be programmed to have most features on them. There are more and different types of games to.

* 1. How are old games similar to current games?

The old games still have the needed feature of entertaining the player and all games must have some of the basic programs. They all need a console and controller to be played.

**Level 3: Inside the Simon Game**

1. Research on-line about what is physically inside the game and the components inside the package:
   1. What electronics devices and components collect physical input from the user?

Some input devices are keyboards, mouse, scanners digital cameras and joysticks.

* 1. What electronics devices and components provide output (sight and sound) to the user?

Some output are text, graphics, audio and video. Some devices are screens and speakers.

1. Research on-line about program logic (e.g. software) is inside the game and recent projects to emulate (duplicate) the game on modern computers.

Program logic sets out what a project will do and how it will do it.

1. Compare the Simon Game to other classic handheld game systems like the Nintendo DS:
   1. List some similarities.

Some similarities are both are used for entertainment and both are portable. They both need programming and both have input and output devices.

* 1. List some differences.

Some differences are that the Nintendo DS can hold a lot more games and is more electronically advanced than Simon.

1. Compare the Simon Game to modern console game systems:
   1. List some similarities.

Both consoles and both are fun. Both have output and input devices.

* 1. List some differences.

Modern day devices have screens as an output device along with speakers where Simon only has audio output and doesn’t have a screen.

**Level 4: Presentation**

1. With your group, prepare a 5-10 minute PowerPoint (or equivalent) presentation about your research related to the Simon Game.