1) GAME RULES

In this project we will create the famous "Whac-A-Mole" game. The game is quite simple. There is a certain number of holes from which a mole can pop out at a random time. The user has a number of time-restricted attempts to hit the mole with the cursor before the mole gets back to its hole. After a successful hit, the user proceeds to a next stage. Every next stage the time a mole spends out of a hole is reduced.

2) I/O's

- Inputs:
  - Keyboard: Main Menu & Score Interface
  - Cursor: Used for hitting the mole
- Outputs:
  - VGA Display
  - Audio
3) Design Implementation

- **Hardware**
  - VGA 2D Graphic Display with RGB color effects
  - Mouse offers movement and 1-click "active high" button
  - Audio effects depending on the state of the game. (User hits or misses the mole)
  - Memory Implementation

- **Software**
  - Interrupt code for Mouse control
  - Code for mole’s random movement
  - Main menu and Score Interface code
  - Successful or not hit of the mole
  - Audio Initiation and sequence
  - Basic data Analytics for keeping high scores

4) Milestones

Milestones will be similar to Labs 1-3.

- **Milestone 1**
  - Hardware implementation
- **Milestone 2**
  - Software implementation
- **Milestone 3**
  - Hardware & Software Interface