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# Introduction: (~100 Words)

This reports purpose is to demonstrate a basic understanding of the Python-3 Language in a limited form by analysing three functions found within a section of code created in Python3, specifically a game. This is expressed through the use of flow diagrams, pseudo code of the game, and a breakdown of it’s functionality. These three functions/processes that have been selected include the game’s mainloop() which is an infinite loop used to run the application and process events, the game’s cursor location system which determines where on the application the mouse is, and finally the ‘has-won’ & ‘has-tied’ statements which determines whether or not a player has won or lost.

# Function One, mainloop():

## Diagram Description automatically generatedFlow Diagram:

## Analysis:

This code starts and confirms that Pygame is running, the term ‘mainloop’ derives from the fact that it is constantly looping in order to confirm that the game is running, which in turn keeps the game running. Since this constant loop is happening, it’s possible to update events through the loop. Because of an if/else statement it is constantly checking if ‘mousebtn\_down’ has been pressed. If ‘mousebtn\_down’ is clicked, then it will continue using the variable ‘click‘ which is defined in the cursor function.

## Pseudo Code: Text Description automatically generated

# Function Two, cursor function:

## Flow Diagram:

Diagram

Description automatically generated

## Analysis:

This function find’s the mouse’s location to check if it’s a valid location to place an X or an O. If the mouse is not in a square, it will continue to check the cursors location until it is. When the cursor is finally in a square, it will see if the ‘mousebtn\_left‘ has been clicked. If not, it will loop. If the mouse button has been clicked, it will decide whether or not it is X’s turn, as X is the default. If it is then it will place an X in the square and continue to the next turn. Otherwise, it will place an O.

## Pseudo Code:

## Text Description automatically generated

# 

# Function Three, has\_won: (~150 Words)

## Flow Diagram:

## Analysis:

## Pseudo Code:

# Summary : (~150 Words)

# Appendix :

## Entire Game Source Code :