Use case Number: 3

Use case Name: Edit cell

Actors: User who interacts with the spreadsheet.

Preconditions:

- A spreadsheet has been successfully created or imported.

Postconditions:

- Selected cell is updated and saved in the system.
- All cells reliant on the modified cell are recalculated based on the new data.

Main Success Scenario (Basic Flow):

1. System prompts the user to specify which cell to edit.
2. User chooses the cell they wish to modify.
3. System requests the new content for the cell from the user.
4. User inputs a formula.
5. System triggers the Compute Formula use case.
6. System refreshes the selected cell with the updated content.
7. System detects all cells dependent on the changed cell and recalculates their values.

Extensions (Alternative Flows):

2a. The user provides invalid cell coordinates.
    1. System alerts the user with an error message.
    2. System terminates the use case and redisplays the options menu.

4a. User enters text content.
    1. System proceeds to step 6 of the main flow.
4b. User inputs numerical content.
    2. System advances to step 6 of the main flow.

5a. Compute Formula use case encounters a tokenizing error.
    1. System notifies the user of an invalid formula format error.
    2. System returns to step 3 of the main flow.
5b. Compute Formula use case detects a syntax error.
    1. System informs the user of an invalid formula format error.
    2. System reverts to step 3 of the main flow.
5c. Compute Formula use case identifies a circular dependency error.
    1. System alerts the user to an invalid formula format error.
    2. System loops back to step 3 of the main flow.
5d. Compute Formula use case results in an evaluation error.
    1. System throws an error that the formula has invalid format.
    2. System returns to step 3 of the basic flow.