1: Test add gizmo

Inputs:

Enter build mode

Open the editing tools menu

Select a gizmo from the “Add New Gizmo” dropdown menu

Click an empty tile to place the gizmo

Repeat with all gizmos

Outputs:

Gizmos added to the board on the tiles clicked

2: Test Move gizmo

Input:

In build mode

Open the editing tools menu

Click the “Move” button

Click and hold the gizmo to move

Drag the gizmo to an empty tile and release

Output:

Gizmo moves location while dragging and stays in the tile it was dropped in

3: Test Rotate gizmo

Input:

Enter build mode

Open the editing tools menu

Click the “Rotate” button

Click a gizmo to rotate

Output:

Gizmo selected is rotated 90 degrees clockwise

4: Test delete gizmo

Input:

Enter build mode

Open the editing tools menu

Click the “Delete” button

Click a gizmo to delete

Output:

Gizmo selected is removed from the game board

5: Test Connect Gizmos

Input:

Enter build mode

Open the editing tools menu

Click “Connect” button

Click gizmo to connect

Click gizmo to connect to

Output:

Gizmos are connected

Ball hitting first gizmo triggers the second gizmos action

6: Test connect multiple gizmos to single gizmo

Input:

Connect two different gizmos to the same gizmo

Output:

Ball hitting either of the triggering gizmos triggers the action connected gizmo

7: Test connect single gizmo to multiple gizmos

Input:

Connect one gizmo to two different gizmos

Output:

Ball hitting the triggering gizmo triggers the action of both the connected gizmos

8: Test Connect Key Press Down to gizmo

Input:

In build mode

Open the editing tools menu

Click connect button

Press Key to connect

Select from prompt key press down

Click gizmo to connect to

Output:

Pressing chosen key should trigger the selected gizmo

9: Test Connect Key Press up to gizmo

Input:

In build mode

Open the editing tools menu

Click connect button

Press Key to connect

Select from prompt key press up

Click gizmo to connect to

Output:

Releasing chosen key should trigger the selected gizmo

10: Test connect multiple key press to single gizmo

Input:

Connect key press to a gizmos

Repeat this with another key press

Output

Both key presses should trigger gizmo

11: Test connect key press to multiple gizmo

Input:

Connect key press to a gizmo

Repeat this with a different gizmo

Output

The key press should trigger both gizmos

12: Test Disconnect gizmos

Input:

Enter build mode

Connect two gizmos

Click disconnect button

Click gizmo to remove connections from

Output:

Clicked gizmo should no longer trigger the other gizmo

13: Test Disconnect multiple gizmos

Input:

Enter build mode

Connect a single gizmo to multiple gizmos

Click disconnect button

Click gizmo to remove connections from

Output:

Clicked gizmo should no longer trigger any gizmos

14: Test Disconnect Key press

Input:

Enter build mode

Connect a key press to a gizmo

Click disconnect button

Click gizmo to remove connections from

Output:

Key should no longer trigger the gizmo

15: Test Disconnect multiple gizmos from key press

Input:

Enter build mode

Connect a single key press to multiple gizmos

Click disconnect button

Press key to remove connections from

Choose key press event(press/release) to disconnect

Output:

Key should no longer trigger any gizmos

16: Test clear board

Input:

Enter build mode

Open the editing tools menu

Add multiple gizmos to the board

Click “Clear Board” button

Output:

All gizmo are removed from the board

17: Test changing gravity

Input:

In build mode

Open the “Settings” menu

Slide “Gravity” slider

Enter Running mode

Press “Start” button

Repeat with different values

Output:

Gravity property of game are changed

18: Test changing surface friction

Input:

In build mode

Open the “Settings” menu

Slide “Friction (mu)” slider

Enter Running mode

Press “Start” button

Repeat with different values

Output:

Surface friction property of game are changed

19: Test changing air friction

Input:

In build mode

Open the “Settings” menu

Slide “Friction (mu2)” slider

Enter Running mode

Press “Start” button

Repeat with different values

Output:

Air friction property of game are changed

20: Test Save

Input:

Enter build mode

Add gizmos to board

Open “File” menu

Click the “Save” button

Output:

Current board is saved to file

saveFile in src folder has been modified

21: Test Open

Input:

Restart the application

Enter build mode

Open “File” menu

Click the “Open” button

Browse to saveFile in src folder

Open saveFile

Output:

Board is loaded with gizmos from the saveFile

22: Test Reload

Input:

Open a game from file

Enter build mode

Add a gizmo to the board

Open “File” menu

Click “Reload” button

Output:

Game board is loaded using the last file opened

23: Test Quit

Input:

Enter Build mode

Open “File” menu

Click Quit button

Output:

System is closed

24: Test Run Game

Input:

Enter Run mode

Click start button

Output:

Game begins running

25: Test Stop Game

Input:

Enter Run mode

Run game

Click stop game button

Output:

Game stops running

26: Test Next Tick

Input:

Enter Run mode

Stop game

Click next tick button

Output:

Game board advances by one game tick

27: Test Save (2)

Input:

Enter build mode

Add gizmos to board

Enter Run mode

Click the “Save” button

Output:

Current board is saved to file

saveFile in src folder has been modified

28: Test Open (2)

Input:

Restart the application

Enter Run mode

Click the “Open” button

Browse to saveFile in src folder

Open saveFile

Output:

Board is loaded with gizmos from the saveFile

29: Test Reload (3)

Input:

Open a game from file

Enter Run mode

Run the game

Stop the game

Click “Reload” button

Output:

Game board is reloaded using the last file opened

30: Test add gizmo error

Inputs:

In build mode

Select a gizmo from the add gizmos dropdown menu

Click an occupied square to place the gizmo

Outputs:

User prompted about error in tile selection

Gizmo not added to the board on the tile clicked

31: Test Open error

Inputs:

Click “Open” button

Open an incorrect file

Outputs:

User prompted about error in file selection

Game board not loaded from file

32: Test reload error

Inputs:

Open a game from file

Delete or move the file

Press “Reload” button

Outputs:

User prompted about file not found error

Game board not reloaded