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<u>EECS Laboratory 1</u>

1. **The total possible dynamic objects are:**

    1. Player (Mario)
    2. Brick Tile
    3. Question Mark Tile
    4. Mushroom
    5. Tunnel
    6. Location of object

2. **The classes:**

    1. The objects that move (<u>Entities</u>):

        1. Player
        2. Mushroom

    2. <u>Tiles</u>:

        1. Brick Tile
        2. Question Mark Tile

    3. <u>Portals</u>:

        1. Tunnel

    4. Class to manage the coordinate space (<u>Space</u>):

        7. Location of object

3. **The attributes and methods:**

1. Entities:
   1. Attributes:
      activityStatus: to define if the entity is active on the space. [bool]

   2. Methods:
      isActive: to know if the entity is active.
      toggleActivity: to change the activityStatus.

2. Tiles:
   1. Attributes:
      activityStatus: to define if the tile is active on the space. [bool]

   2. Methods:
      isActive: to know if the tile is active.
      toggleActivity: to change the activityStatus.
      onHit: to define what happens when the player hits it.

3. Portals:
   1. Methods:
      gameExit: exit the game if the player enters the tunnel.

4. Space:
   1. Attributes:
      xCord: x coordinate of the object. [int]
      yCord: y coordinate of the object. [int]

   2. Method:
      moveRight: moves the object right
      moveLeft: moves the object left
      moveDown: moves the object down (Crouch)
      moveUp: moves the object up (Jump)
      moveUpRight: Jump-Right
      moveUpLeft: Jump-Left
      remove: Remove from the space (destroyed)

4. Implemented in the file attached.

5. **Scenarios:**

   1. Hitting question mark tiles multiple times results in coins increasing.
   2. Mushroom comes out once hitting the right question mark tile.
   3. Bricks get broken if you hit them.

6. Implemented in the file attached.

7. **Output:**

   WELCOME TO SIMPLE MARIO GAME!

   Your Surroundings and Coins:

   Up: Nothing.
   Right: Nothing.
   Left: Nothing.
   Down: Nothing.

   You have 0 coins!

   Choose your next move:

   W: Jump
   A: Left
   D: Right
   S: Down
   E: Right Jump
   Q: Left Jump

   Your move key: d

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 0 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 0 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 0 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: There is a brick tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 0 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

You broke the brick tile!

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 0 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 0 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

Cha Ching! 10 coins!

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 10 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

Cha Ching! 10 coins!

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 20 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

Cha Ching! 10 coins!

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 30 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

Cha Ching! 10 coins!

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 40 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

Cha Ching! 10 coins!

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

You have exhausted all hits to this tile!

Your Surroundings and Coins:

Up: Static question mark tile.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: There is a brick tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

You broke the brick tile!

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: there is a question mark tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

A mushroom has been released!

Your Surroundings and Coins:

Up: Static question mark tile.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: There is a brick tile above you!
Right: A power up mushroom!
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

You consumed the mushroom and gained a power up!

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: a

Your Surroundings and Coins:

Up: There is a brick tile above you!
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: w

You broke the brick tile!

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Your Surroundings and Coins:

Up: Nothing.
Right: An exit tunnel!
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: d

Can't move coz of the tunnel!

Your Surroundings and Coins:

Up: Nothing.
Right: An exit tunnel!
Left: Nothing.
Down: Nothing.

You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: e

Your Surroundings and Coins:

Up: Nothing.
Right: Nothing.
Left: Nothing.
Down: Exit!
You have 50 coins!

Choose your next move:

W: Jump
A: Left
D: Right
S: Down
E: Right Jump
Q: Left Jump

Your move key: s