Post Lab 4

ENSF 409

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**Exercise 2**

**Output:**

Adding Rectangle, Circle, and Prism objects to the list...

Showing information about objects added to the list:

Shape name: C1

Origin: X-coordinate: 13.0

Y-coordinate: 14.0

Green point

Radius: 15.0

Shape name: C2

Origin: X-coordinate: 33.0

Y-coordinate: 34.0

Yellow point

Radius: 35.0

Shape name: P1

Origin: X-coordinate: 43.0

Y-coordinate: 44.0

White point

Width: 46.0

Length: 45.0

Height: 47.0

Shape name: P2

Origin: X-coordinate: 53.0

Y-coordinate: 54.0

Gray point

Width: 56.0

Length: 55.0

Height: 57.0

Shape name: R1

Origin: X-coordinate: 3.0

Y-coordinate: 4.0

Black point

Width: 6.0

Length: 5.0

Shape name: R2

Origin: X-coordinate: 23.0

Y-coordinate: 24.0

Black point

Width: 26.0

Length: 25.0

Showing area, perimeter, and volume of objects in the list:

The area, perimeter, and volume of C1 are: 706.86, 94.25, 0.00

The area, perimeter, and volume of C2 are: 3848.45, 219.91, 0.00

The area, perimeter, and volume of P1 are: 12694.00, 182.00, 97290.00

The area, perimeter, and volume of P2 are: 18814.00, 222.00, 175560.00

The area, perimeter, and volume of R1 are: 30.00, 22.00, 0.00

The area, perimeter, and volume of R2 are: 650.00, 102.00, 0.00

**Exercise 3**

**Sample Output:**

**Human Player**

Please enter the name of the 'X' player: Will

What type of player is Will?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 1

Please enter the name of the 'O' player: Matt

What type of player is Matt?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 1

Referee started the game...

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 2

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | |

| | | |

+-----+-----+-----+

Matt, what row should your next O be placed in?: 1

Matt, what column should your next O be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | O | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 0

Will, what column should your next X be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | O | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | |

| | | |

+-----+-----+-----+

Matt, what row should your next O be placed in?: 0

Matt, what column should your next O be placed in?: 2

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | | O | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 2

Will, what column should your next X be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | | O | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | X | |

| | | |

+-----+-----+-----+

Matt, what row should your next O be placed in?: 1

Matt, what column should your next O be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | O | O | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | X | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 2

Will, what column should your next X be placed in?: 2

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | O | O | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | X | X |

| | | |

+-----+-----+-----+

Game Over. Will is the Winner!

**Random Player**

Please enter the name of the 'X' player: Will

What type of player is Will?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 1

Please enter the name of the 'O' player: Matt

What type of player is Matt?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 2

Referee started the game...

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 1

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 0

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | X | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | O | X | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 2

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | O | X | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | |

| | | |

+-----+-----+-----+

Game Over. Will is the Winner!

**Blocking Player**

Please enter the name of the 'X' player: Will

What type of player is Will?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 1

Please enter the name of the 'O' player: Matt

What type of player is Matt?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 3

Referee started the game...

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 0

Will, what column should your next X be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | O |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 1

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | O |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | O |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | O |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 2

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | O |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | O |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | O | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | O |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | O |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 0

Will, what column should your next X be placed in?: 2

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | O | X |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | O |

| | | |

+-----+-----+-----+

| | | |

row 2 | | X | O |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | O | X |

| | | |

+-----+-----+-----+

| | | |

row 1 | | X | O |

| | | |

+-----+-----+-----+

| | | |

row 2 | O | X | O |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 1

Will, what column should your next X be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | X | O | X |

| | | |

+-----+-----+-----+

| | | |

row 1 | X | X | O |

| | | |

+-----+-----+-----+

| | | |

row 2 | O | X | O |

| | | |

+-----+-----+-----+

Game Over. It is a Tie

**Smart Player**

Please enter the name of the 'X' player: Will

What type of player is Will?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 1

Please enter the name of the 'O' player: Matt

What type of player is Matt?

1: Human

2: Random Player

3: Blocking Player

4: Smart Player

Please enter a number in the range 1-4: 4

Referee started the game...

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 2

Will, what column should your next X be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | | |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | O | |

| | | |

+-----+-----+-----+

| | | |

row 1 | | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 1

Will, what column should your next X be placed in?: 0

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | | O | |

| | | |

+-----+-----+-----+

| | | |

row 1 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | | |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | O | O | |

| | | |

+-----+-----+-----+

| | | |

row 1 | X | | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | | |

| | | |

+-----+-----+-----+

Will, what row should your next X be placed in?: 1

Will, what column should your next X be placed in?: 1

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | O | O | |

| | | |

+-----+-----+-----+

| | | |

row 1 | X | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | | |

| | | |

+-----+-----+-----+

|col 0|col 1|col 2

+-----+-----+-----+

| | | |

row 0 | O | O | O |

| | | |

+-----+-----+-----+

| | | |

row 1 | X | X | |

| | | |

+-----+-----+-----+

| | | |

row 2 | X | | |

| | | |

+-----+-----+-----+

Game Over. Matt is the Winner!