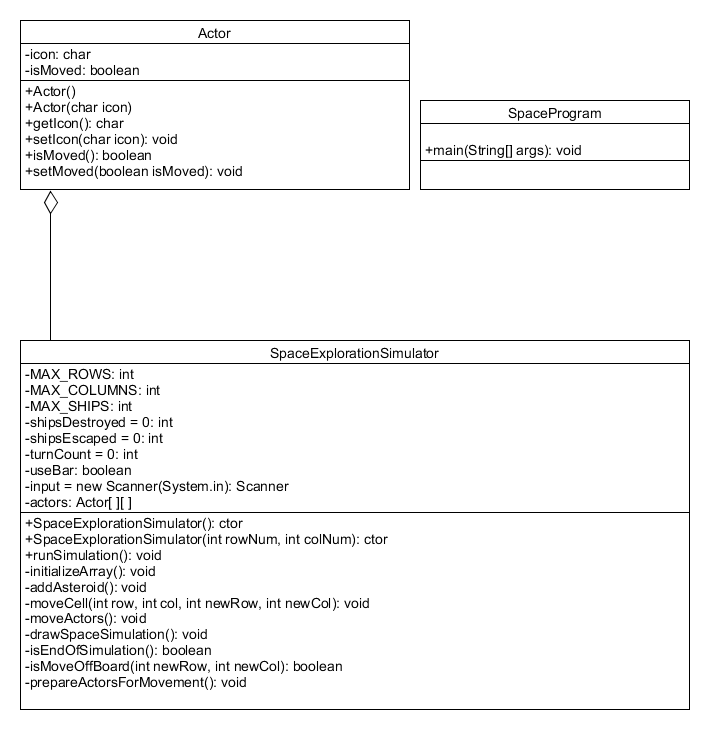
CST8284 (21W) Assignment 01

Program by Simon Ao

UML Class Diagrams (Image)



# UML Class Diagrams (UMLet Markup)

See next page

Class SpaceProgram

SpaceProgram

--

--

\_+main(args:String[]):void\_

Class Actor

Actor

--

-icon: char

-isMoved: boolean

--

+Actor()

+Actor(char icon)

+getIcon(): char

+setIcon(char icon): void

+isMoved(): boolean

+setMoved(boolean isMoved): void

Class SpaceExplorationSimulator

SpaceExplorationSimulator

--

-MAX\_ROWS: int

-MAX\_COLUMNS: int

-MAX\_SHIPS: int

-shipsDestroyed = 0: int

-shipsEscaped = 0: int

-turnCount = 0: int

-useBar: boolean

-input = new Scanner(System.in): Scanner

-actors: Actor[ ][ ]

--

+SpaceExplorationSimulator(): ctor

+SpaceExplorationSimulator(int rowNum, int colNum): ctor

+runSimulation(): void

-initializeArray(): void

-addAsteroid(): void

-moveCell(int row, int col, int newRow, int newCol): void

-moveActors(): void

-drawSpaceSimulation(): void

-isEndOfSimulation(): boolean

-isMoveOffBoard(int newRow, int newCol): boolean

-prepareActorsForMovement(): void

Appendix Sample Run of Staeter Code

Welcome to Space Simulation

Do you want to draw vertical bars?

Y

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 0

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 0

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 1

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 2

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 3

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 4

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 5

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 6

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 7

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 8

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 9

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 10

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 0

Ships escaped: 0

Turn number: 11

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 1

Ships escaped: 0

Turn number: 12

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 1

Ships escaped: 0

Turn number: 13

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 14

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 15

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 16

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 17

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 18

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 19

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 20

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 21

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 22

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 23

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 24

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 2

Ships escaped: 0

Turn number: 25

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 3

Ships escaped: 0

Turn number: 26

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 27

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 28

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 29

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 30

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 31

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 32

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 33

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 34

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 35

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 36

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 37

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 38

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 39

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 40

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 41

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 42

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 43

Use enter key to run next turn

Typing anything other than return will end program

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Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 44

Use enter key to run next turn

Typing anything other than return will end program

| | | | | | | | | | | | | | | | | | | | |

| | | | | |A| | | | | | |S| | | | | | | |

| | | | | | | | | | | | |A| | | | | | | |

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| | | | | | | | | | | | | | | |A| | | | |

Simulation by Simon Ao

Ships destroyed: 4

Ships escaped: 0

Turn number: 45

Use enter key to run next turn

Typing anything other than return will end program

| | | | | | | | | | | | | | | | | | | | |

| | | | |A| | | | | | | | | | | | | |A| |

| | | | | | | | | | | |A| | | | | | | | |

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| | | | | | | | | | | | | | |A| | | | | |

Simulation by Simon Ao

Ships destroyed: 5

Ships escaped: 0

Turn number: 46

Use enter key to run next turn

Typing anything other than return will end program

Thanks for using the simulation