Design of each classes

Dinosaur class

This class extends Actor because the dinosaurs need most of the methods in Actor to move around and do actions

This class was also created rather than extending each type of dinosaur from actor class cause the dinosaurs share common methods like isHungry() and tick, and atrributes.

Stegosaur (extends Dinosaur)

This class extends dinosaur so it can use Actor and Dinosaur methods

- Responsible for wander, eat fruits and breeding

- This class extends Dinosaur that provide shared methods with brachiosaur and allosaur.

- Calls methods if it is hungry, seeking mate

- Has feed and attack action which other actors can do to them

Brachiosaur (extends Dinosaur)

This class extends dinosaur so it can use Actor and Dinosaur methods

- Responsible for wander, eat fruits and breeding

- This class extends Dinosaur that provide shared methods with Stegosaur and allosaur.

- Calls methods if it is hungry, seeking mate

- Has feed action which other actors can do to them

Allosaur (extends Dinosaur)

This class extends dinosaur so it can use Actor and Dinosaur methods

- Reposible for attack Stegosaur,wander, eat corpse, eggs and breeding

- Calls methods if it is hungry, seeking mate

- Has feed and attack action which other actors can do to them

Hunger

SeekFoodBehaviour (extends Behaviour)

Returns EatFoodAction if dinosaur is standing on food source else makes sure dinosaur goes to the closest food source for it.

EatFoodAction (extends Action)

Gets the item the actor can eat and when executed it adds the hunger points using the heal method of the Actor class

Breeding

BreedBehaviour( implements Behaviour)

- Responsible for breeding when two same species with opposite gender are nearby in given condition

- This overrides getAction() from Behaviour class

- checks if dinosaur actor can mate with is in adjacent square and returns BreedAction else gets the closest mate and passes it to FollowBehaviour because it has the functionality to move actor closer to the target

BreedAction (extends Action)

When executed it make the female dinosaur have a enum pregnant which gives the dinosaur a breeding length

Laying egg

-Handled by the tick method in Dinosaur which checks if appropriate number of turns has passed and creates a new Dinosaur egg item .

Tick method is also responsible for reducing the hunger by 1 every turn