

num ber	Reason for Test	Type	Input	Expected Output	Actual Output	Result
1	Test Initialization of PenguinFamily Object	Initializati on Testing	"Penguin1", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty]	Verify that the object is created with the provided parameters.	Object successfully created as expected.	Actual output matches the expected output. Initialization testing successful.
2	Test Getting the ID of the PenguinFamily	Getter Testing	Penguin2", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty]	The returned ID should match the input ID.	Retrieved ID matches the input ID.	: Actual output matches the expected output. Getter testing successful.
3	Test Setting the ID of the PenguinFamily	Setter Testing	New ID: "NewPenguin1"	Verify that the ID is updated to the new value.	ID updated successfully.	: Actual output matches the expected output. Setter testing successful.
4	Test Adding an Egg to the Egg List of the PenguinFamily	Mutator Testing	ID: "Penguin4", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty], New Egg: mocked egg	Verify that the Egg is added to the Egg List.	Egg added successfully to the Egg List.	Actual output matches the expected output. Mutator testing successful.
5	Test Adding a Chick to the Chick List of the	Mutator Testing	ID: "Penguin5", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty], New Chick: mocked chick	Verify that the Chick is added to the Chick List.	Chick added successfully to the Chick List.	Actual output matches the expected output. Mutator testing successful.
6	Test Laying Eggs for the PenguinFamily	Randomiz ed Testing	ID: "Penguin6", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty]	Verify that a random number of eggs are laid, and the Egg List is updated accordingly.	Random number of eggs successfully laid, and Egg List updated.	Actual output matches the expected output. Randomized testing successful.
7	Test Hatching Chicks from Eggs for the	Randomiz ed Testing	ID: "Penguin7", Male Penguin: mocked,	Verify that chicks are	Chicks successfully	Actual output matches the

	PenguinFamily		Female Penguin: mocked, Egg List: [mocked eggs], Chick List: [empty]	hatched from eggs, and the Egg List and Chick List are updated accordingly.	hatched from eggs, and lists updated.	expected output. Randomized testing successful.
8	Test Laying Eggs and Hatching Chicks Together for the PenguinFamily	Randomized Testing	"Penguin8", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty]	Verify that eggs are laid, and chicks are hatched, and both lists are updated accordingly.	Eggs laid, and chicks hatched, and both lists updated as expected.	Actual output matches the expected output. Randomized testing successful.
9	Test Laying Eggs and Hatching Chicks When No Eggs are Present	Randomized Testing	ID: "Penguin9", Male Penguin: mocked, Female Penguin: mocked, Egg List: [empty], Chick List: [empty]	Verify that no chicks are hatched when no eggs are present, and lists remain empty	No chicks hatched when no eggs are present, lists remain empty.	Actual output matches the expected output. Randomized testing successful.