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CS 162  
Project 2 Reflection

1. Design description

- a. 7 classes
  - i. Animal
  - ii. Zoo
  - iii. Tiger
  - iv. Turtle
  - v. Penguin
  - vi. Camel "Extra credit"
  - vii. Menu "Input validating"
- b. Tiger, Penguin, Turtle and Camel inherit from Animal
- c. Zoo class has a dynamic array for each type of animal. Each dynamic array has a capacity of 10 animals to start with. The array is resized by doubling the starting capacity when more animals are added.
- d. Continue to check for illegal input, re-prompt for input until valid input is received.
- e. Writing random event to text file then reading the content of that file and printing to the screen
- f. Set up different feeding type

2. Test table

Test case	Input value	Driver function	Expected Outcome	Observed Outcome
Invalid input	r	Menu::getValue(string* messages, int size, int min_val, int max_val)	Loop back to the question prompting the user for input	Loop back to the question prompting the user for input
Invalid input	min_val - 1	Menu::getValue(string* messages, int size, int min_val, int max_val)	Loop back to the question prompting the user for input	Loop back to the question prompting the user for input
Invalid input	max+val + 1	Menu::getValue(string* messages, int size, int min_val, int max_val)	Loop back to the question prompting the user for input	Loop back to the question prompting the user for input
Stop game	1	void Zoo::run() selection = menu.getValue(questions, 3, 0, 1);	Game ends	Game ends
Continue	0	void Zoo::run() selection = menu.getValue(questions, 3, 0, 1);	Game continues	Game continues
Payoff	1 1 1 1 1	void Zoo::run() void Zoo::aDay()	Collect \$2000 from tigers Collect \$5 from turtles Collect \$100 from penguins Collect \$750 from camels	Collect \$2000 from tigers Collect \$5 from turtles Collect \$100 from penguins Collect \$750 from camels
Payoff	2 2 2 2 2	void Zoo::run() void Zoo::aDay()	Collect \$4000 from tigers Collect \$10 from turtles	Collect \$4000 from tigers Collect \$10 from turtles

			Collect \$200 from penguins Collect \$1500 from camels	Collect \$200 from penguins Collect \$1500 from camels
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### 3. Reflection

- a. A lot of inheritance techniques are used in this project
  - i. Constructor
  - ii. Destructor
  - iii. Copy constructor
  - iv. Function overriding
- b. All arrays are allocated and deleted automatically
- c. All extra credits are fulfilled
  - i. Extra class
  - ii. File reading and writing
  - iii. Extra feeding option
- d. Input validation is applied