**DASC 1204 – Introduction to OOP for Data Science**

**Programming Project Report**

**Chance Pickett**

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**Academic Integrity Statement:** I pledge that this programming project is my work and that I have neither given nor received unauthorized help on this assignment.

**Problem Statement:**

* This section should describe the goals of the assignment.
* What are the program inputs?
* What are the program outputs?
* What error handling was required?

The first input asks the user for their name. The second input asks the user for their starter Pokemon. Then it loops between asking if the user wants to try to catch the pokemon and if the user wants to continue to the next level.

First outputs the user name and welcomes them. Second output prints what starter pokemon they chose and welcomes them to the adventure. Third output prints the arena number and the steps they take. Fourth output tells user they encountered a pokemon and asks if they want to run or not. Fifth output prints if they caught it or not and tells the user how many they’ve encountered in the arena and caught in total. Sixth output asks if user wants to continue in the arena and prints if they moved on or not. Then these outputs repeat for three arenas until the conclusion output prints the total pokemon they caught with which pokemon and their name.

I used a while loop to check if the starter pokemon input is equal to 1, 2, or 3. I used another while loop to check if the user entered a 1 or 2 when asked if they want to continue. I also used a do while loop to check if the user inputs a 1 or 2 when asked if they want to try and catch the encountered pokemon.

**Design:**

* This section should describe the design decisions you made.
* What data structures did you use?
* What algorithms did you use?
* What were pros/cons of the choices above?

I used a random Boolean oobject to check if the user caught the pokemon. I used a scanner object to ask the user their name, starter pokemon, if they want to run, and if they want to continue. I used multiple while and do while loops for error checking inputs. I used an if statement to set the name of the starter pokemon. The game starts with a for loop to loop through the arenas. It has a while loop inside that checks if the user wants to continue in the same arena or not. Inside the while loop is a for loop for the steps the user take. Theres also an if statement that outputs if the user caught the pokemon. Finally theres another if statement that checks if the user will move on to the next arena or not. If they want to, keepGoing Boolean becomes false and they move out of the while loop and loops through the main for loop again adding 1 to arena.

**Implementation:**

* This section should describe your implementation process.
* What sample code did you start with?
* How did you extend or adapt this code?
* What was your development timeline?
* If you used concepts outside of the scope current topics in this class, where did you gain this knowledge?

I only started with the code OnlineGDB gives you to create the main class.

It spent me about three hours to do the whole project with the report.

I had to go back to the slides on Blackboard a few times especially for the do while loop.

**Testing:**

* This section should describe your testing process.
* Show your program output with simple test cases
* Show your program output with special test cases
* Did everything work as expected?

Output 1: Focus on Error Checking

Welcome to the world of Pokémon!

What is your name?

Ash

Hello Ash!

Choose you starter Pokémon!

1. Bulbasaur

2. Charmander

3. Squirtle

0

Invalid input, please choose from the following options.

Choose you starter Pokémon!

1. Bulbasaur

2. Charmander

3. Squirtle

1

You chose Bulbasaur!

You are now ready to start your adventure!

\*\* You are now in area 1 \*\*

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

3

Invalid choice - select again.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

1

You caught the Wild Pokémon!

You have encountered 1 so far in this area, and caught 1 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

3

Invalid choice – select again.

Would you like to...

1. Continue exploring area

2. Go to the next area

1

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 2 so far in this area, and caught 1 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

1

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

1

You caught the Wild Pokémon!

You have encountered 3 so far in this area, and caught 2 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

2

You have chosen to leave this area.

You encountered 3 in that area, and caught 2 in total.

\*\* You are now in area 2 \*\*

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 1 so far in this area, and caught 2 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

1

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

1

You caught the Wild Pokémon!

You have encountered 2 so far in this area, and caught 3 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

1

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 3 so far in this area, and caught 3 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

2

You have chosen to leave this area.

You encountered 3 in that area, and caught 3 in total.

\*\* You are now in area 3 \*\*

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 1 so far in this area, and caught 3 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

2

You have chosen to leave this area.

You encountered 1 in that area, and caught 3 in total.

Congratulations Ash, you and Bulbasaur have completed your adventure! You caught 3 Pokémon.

Output 2: Get through as fast as possible, catching nothing

Welcome to the world of Pokémon!

What is your name?

Chance

Hello Chance!

Choose you starter Pokémon!

1. Bulbasaur

2. Charmander

3. Squirtle

2

You chose Charmander!

You are now ready to start your adventure!

\*\* You are now in area 1 \*\*

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 1 so far in this area, and caught 0 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

2

You have chosen to leave this area.

You encountered 1 in that area, and caught 0 in total.

\*\* You are now in area 2 \*\*

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 1 so far in this area, and caught 0 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

2

You have chosen to leave this area.

You encountered 1 in that area, and caught 0 in total.

\*\* You are now in area 3 \*\*

You took a step.

You took 2 steps.

You took 3 steps.

A Wild Pokémon appeared!

1. Try to catch it

2. Run away

2

You ran away from the wild Pokémon.

You have encountered 1 so far in this area, and caught 0 in total.

Would you like to...

1. Continue exploring area

2. Go to the next area

2

You have chosen to leave this area.

You encountered 1 in that area, and caught 0 in total.

Congratulations Chance, you and Charmander have completed your adventure! You caught 0 Pokémon.