Project 4

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**Project Name: Adventure text-based game**

**Objective:** Develop a text-based adventure game using Java.

**Requirements:**

* The game should have a clear storyline with multiple decision points.
* Users should be able to make choices by inputting their decisions.
* The game should provide different outcomes based on user choices.
* Implement error handling for invalid inputs.
* Ensure a user-friendly interface with clear instructions.

**Tips:**

* Plan your storyline and decision points in advance to keep the project manageable.
* Break down the coding tasks into smaller steps, such as handling user input and creating the game logic.
* Test your game thoroughly to ensure all decision paths work correctly.
* Use comments in your code to explain complex logic or choices.

**Input:**

**package** oops;

**import** java.util.Scanner;

**public** **class** User {

**public** **static** **void** main(String[] args) {

Scanner scanner = **new** Scanner(System.***in***);

String playerName;

// Introduction and getting player's name

System.***out***.println("Welcome to the Text Adventure Game!");

System.***out***.print("Enter your name: ");

playerName = scanner.nextLine();

System.***out***.println("\nHello, " + playerName + "! Let's begin the adventure.\n");

// Start the game

*startGame*(scanner);

// Closing the scanner

scanner.close();

}

**public** **static** **void** startGame(Scanner scanner) {

// Initial setup

**int** playerHealth = 100; // Initial health

**int** coins = 0; // Initial coins

// Game loop

**while** (playerHealth > 0) {

System.***out***.println("\nYou are in a forest. What do you want to do?");

System.***out***.println("1. Go deeper into the forest");

System.***out***.println("2. Rest by a tree");

System.***out***.print("Enter your choice (1 or 2): ");

**int** choice = *getUserChoice*(scanner, 1, 2);

**switch** (choice) {

**case** 1:

*exploreForest*(scanner, playerHealth, coins);

**break**;

**case** 2:

*restByTree*(scanner, playerHealth);

**break**;

}

// Check if player's health drops to zero

**if** (playerHealth <= 0) {

System.***out***.println("\nGame Over! Your adventure has ended.");

**break**;

}

}

}

**public** **static** **int** getUserChoice(Scanner scanner, **int** minChoice, **int** maxChoice) {

**int** choice;

**while** (**true**) {

**try** {

choice = Integer.*parseInt*(scanner.nextLine());

**if** (choice >= minChoice && choice <= maxChoice) {

**break**; // Valid choice

} **else** {

System.***out***.print("Invalid input. Please enter a number between " + minChoice + " and " + maxChoice + ": ");

}

} **catch** (NumberFormatException e) {

System.***out***.print("Invalid input. Please enter a number: ");

}

}

**return** choice;

}

**public** **static** **void** exploreForest(Scanner scanner, **int** playerHealth, **int** coins) {

System.***out***.println("\nYou venture deeper into the forest...");

// Simulating a random event (e.g., encounter with a monster)

**int** event = (**int**) (Math.*random*() \* 3) + 1; // Random number between 1 and 3

**switch** (event) {

**case** 1:

System.***out***.println("You found a treasure chest and gained 20 coins!");

coins += 20;

**break**;

**case** 2:

System.***out***.println("A wild animal attacks you!");

**int** damage = (**int**) (Math.*random*() \* 20) + 10; // Random damage between 10 to 29

playerHealth -= damage;

System.***out***.println("You lose " + damage + " health. Remaining health: " + playerHealth);

**break**;

**case** 3:

System.***out***.println("You found a healing potion and restored 30 health!");

playerHealth += 30;

System.***out***.println("Current health: " + playerHealth);

**break**;

}

}

**public** **static** **void** restByTree(Scanner scanner, **int** playerHealth) {

System.***out***.println("\nYou decide to rest under a shady tree...");

// Resting increases health by a random amount

**int** healAmount = (**int**) (Math.*random*() \* 20) + 10; // Random heal between 10 to 29

playerHealth += healAmount;

System.***out***.println("You gained " + healAmount + " health. Current health: " + playerHealth);

}

}

**Output:**

Welcome to the Text Adventure Game!

Enter your name:

Hello, ! Let's begin the adventure.

You are in a forest. What do you want to do?

1. Go deeper into the forest

2. Rest by a tree

Enter your choice (1 or 2): 1

You venture deeper into the forest...

You found a healing potion and restored 30 health!

Current health: 130

You are in a forest. What do you want to do?

1. Go deeper into the forest

2. Rest by a tree

Enter your choice (1 or 2): 2

You decide to rest under a shady tree...

You gained 14 health. Current health: 114

You are in a forest. What do you want to do?

1. Go deeper into the forest

2. Rest by a tree

Enter your choice (1 or 2):