**QUIZ APPLICATION BY USING JAVA PROGRAMMING LANGUAGE..**

import java.util.\*;

public class QuizApplication {

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

static int *totalEarnings* = 0;

static boolean *fiftyFiftyUsed* = false, *audienceUsed* = false, *skipUsed* = false;

static boolean *fiftyFiftyActive* = false;

static boolean *skipActive* = false;

static int[] *reducedIndexes* = new int[2];

public static void main(String[] args) {

System.***out***.println("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

System.***out***.println(" WELCOME TO THE QUIZ APPLICATION ");

System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

*displayRules*();

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

String playerName = *scanner*.nextLine();

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

*startQuiz*();

}

public static void displayRules() {

System.***out***.println(" RULES OF THE GAME ");

System.***out***.println("1️.Answer correctly to earn money. ");

System.***out***.println("2️. Use lifelines wisely! Each lifeline can only be used once. ");

System.***out***.println("3️. You can quit anytime and keep your earnings. \n");

System.***out***.print("Do you agree to the rules? (yes/no): ");

if (!*scanner*.nextLine().equalsIgnoreCase("yes")) {

System.***out***.println("Thank you! Come back again. ");

System.*exit*(0);

}

}

public static void startQuiz() {

String[][] questions = {

{"What is the time complexity of binary search?", "O(n)", "O(log n)", "O(n^2)", "O(1)", "2"},

{"Which sorting algorithm has the best average case time complexity?", "Bubble Sort", "Insertion Sort", "Merge Sort", "Selection Sort", "3"},

{"What is the default value of an int variable in Java?", "0", "1", "null", "undefined", "1"},

{"What is the output of 5 & 3 in Java?", "1", "2", "3", "5", "1"},

{"What is the derivative of sin(x)?", "cos(x)", "tan(x)", "-cos(x)", "-sin(x)", "1"},

{"Who directed the movie 'Inception'?", "Christopher Nolan", "Steven Spielberg", "James Cameron", "Martin Scorsese", "1"},

{"What is the pH value of pure water?", "5", "7", "9", "10", "2"},

{"What is the value of π (pi) to two decimal places?", "3.12", "3.14", "3.16", "3.18", "2"},

{"Which gas is known as the 'laughing gas'?", "Nitrous Oxide", "Carbon Dioxide", "Oxygen", "Hydrogen", "1"},

{"In which movie did Leonardo DiCaprio win his first Oscar?", "The Wolf of Wall Street", "The Revenant", "Titanic", "Inception", "2"}

};

for (int i = 0; i < questions.length; i++) {

*fiftyFiftyActive* = false;

*reducedIndexes* = new int[2];

*skipActive* = false;

System.***out***.println("\n Question " + (i + 1) + ": " + questions[i][0]);

for (int j = 1; j <= 4; j++) {

System.***out***.println(j + ". " + questions[i][j]);

}

boolean answered = false;

while (!answered) {

System.***out***.print("Enter your answer (1-4) or type 'lifeline' to use a lifeline: ");

String input = *scanner*.nextLine();

if (*isValidOption*(input)) {

if (input.equals(questions[i][5])) {

if (!*skipActive*) {

System.***out***.println(" Correct! You earned ₹1000.");

*totalEarnings* += 1000;

} else {

System.***out***.println(" Correct! (No earnings since you used Skip Lifeline).\n");

}

} else {

System.***out***.println(" Wrong answer. The correct answer was: " + questions[i][Integer.*parseInt*(questions[i][5])]);

if (!*skipActive*) {

System.***out***.println("Game Over. Your total earnings are: ₹" + *totalEarnings*);

return;

} else {

System.***out***.println(" Wrong answer! (No penalty since you used Skip Lifeline).\n");

}

}

answered = true;

} else if (input.equalsIgnoreCase("lifeline")) {

*showAvailableLifelines*(questions[i]);

} else {

System.***out***.println(" Invalid input! Please enter a number between 1-4 or 'lifeline'.");

}

}

System.***out***.print("Do you want to quit? (yes/no): ");

if (*scanner*.nextLine().equalsIgnoreCase("yes")) {

System.***out***.println("You decided to quit. Your total earnings are: ₹" + *totalEarnings*);

return;

}

}

System.***out***.println("\n Quiz completed! Your total earnings are: ₹" + *totalEarnings*);

}

public static void showAvailableLifelines(String[] question) {

System.***out***.println("\n Available Lifelines:");

if (!*fiftyFiftyUsed*) System.***out***.println("1. 50-50");

if (!*audienceUsed*) System.***out***.println("2. Audience Poll");

if (!*skipUsed*) System.***out***.println("3. Skip Question");

System.***out***.print("Choose a lifeline (enter the number): ");

String choice = *scanner*.nextLine();

switch (choice) {

case "1":

if (!*fiftyFiftyUsed*) {

*fiftyFiftyUsed* = true;

*useFiftyFifty*(question);

}

break;

case "2":

if (!*audienceUsed*) {

*audienceUsed* = true;

*useAudiencePoll*(question);

}

break;

case "3":

if (!*skipUsed*) {

*skipUsed* = true;

*skipActive* = true;

System.***out***.println(" You skipped the question, but you still need to answer it.");

}

break;

default:

System.***out***.println("❌ Invalid choice. No lifeline used.");

break;

}

}

public static void useFiftyFifty(String[] question) {

System.***out***.println("🔹 50-50 Lifeline Activated! Two incorrect options are removed.");

Random rand = new Random();

int correctOption = Integer.*parseInt*(question[5]);

int otherOption;

do {

otherOption = rand.nextInt(4) + 1;

} while (otherOption == correctOption);

*reducedIndexes*[0] = correctOption;

*reducedIndexes*[1] = otherOption;

System.***out***.println("Remaining Options:");

System.***out***.println(*reducedIndexes*[0] + ". " + question[*reducedIndexes*[0]]);

System.***out***.println(*reducedIndexes*[1] + ". " + question[*reducedIndexes*[1]]);

}

public static void useAudiencePoll(String[] question) {

System.***out***.println(" Audience Poll Lifeline Activated!");

System.***out***.println("Most of the audience chose the correct answer: " + question[Integer.*parseInt*(question[5])]);

}

public static boolean isValidOption(String input) {

return input.matches("[1-4]");

}

}

SOFTWARE : ECLIPSE.