import java.io.\*;

import java.util.\*;

public class Task {

public static void main(String args[]) {

ArrayList<String> tasks = new ArrayList<>();

ArrayList<Integer> durations = new ArrayList<>();

ArrayList<String> categories = new ArrayList<>();

Scanner scanner = new Scanner(System.in);

boolean loggedIn = false;

String username = "";

String password = "";

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PRODUCTIVITY CALCULATOR APP \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n\n");

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

System.out.println(" || THIS IS A PLACE WHERE YOU CAN KEEP TRACK OF YOUR DAILY ROUTINE TASKS ||\n ");

System.out.println(" \n\*\* IF YOU ARE A NEW USER, PRESS 'YES' ");

System.out.println(" \n\*\* IF YOU ARE AN EXISTING USER, PRESS 'NO'\n ");

System.out.print("Are you a new user? (yes/no): ");

String newUserChoice = scanner.nextLine();

if (newUserChoice.equalsIgnoreCase("yes")) {

System.out.print("Enter your new username: ");

username = scanner.nextLine();

System.out.print("Enter your new password: ");

password = scanner.nextLine();

// create file with username and password

File inputFile = new File(username + "\_Productivity\_Calculator.txt");

if (!inputFile.exists()) {

try {

FileWriter fw = new FileWriter(inputFile);

PrintWriter pw = new PrintWriter(fw);

pw.println("USERNAME = " + username);

pw.println("PASSWORD = " + password);

System.out.println("\n\* NEW ACCOUNT CREATED! \*\n");

pw.close();

}

catch (IOException e) {

e.printStackTrace();

}

}

loggedIn = true;

}

else if (newUserChoice.equalsIgnoreCase("no")) {

while (!loggedIn) {

System.out.print("Enter your existing username: ");

username = scanner.nextLine();

System.out.print("Enter your existing password: ");

password = scanner.nextLine();

// check if entered username and password match stored values

try {

File inputFile = new File(username + "\_Productivity\_Calculator.txt");

Scanner fileScanner = new Scanner(inputFile);

String storedUsername = fileScanner.nextLine().substring(11); // remove "USERNAME = " from the stored value

String storedPassword = fileScanner.nextLine().substring(11); // remove "PASSWORD = " from the stored value

if (username.equals(storedUsername) && password.equals(storedPassword)) {

System.out.println("\n\n \_\_\_\_\_\_\_ WELCOME!! LOGGED IN SUCCESSFULLY AS " + username + " \_\_\_\_\_\_\n\n");

loggedIn = true;

} else {

System.out.println("\nIncorrect username or password. Please try again.\n");

}

} catch (IOException e) {

System.out.println("\nIncorrect username or password. Please try again.\n");

}

}

}

else {

System.out.println("\nInvalid input. Please try again.\n");

}

if (loggedIn) {

System.out.println("BEGIN BY ADDING YOUR FIRST TASK");

System.out.println("In which category do you want to add the task?");

System.out.println("1. Health");

System.out.println("2. Lifestyle");

System.out.println("3. Miscellaneous");

int categoryChoice = scanner.nextInt();

scanner.nextLine();

String category = "";

switch (categoryChoice) {

case 1:

category = "Health";

break;

case 2:

category = "Lifestyle";

break;

case 3:

category = "Miscellaneous";

break;

default:

System.out.println("Invalid category choice.");

break;

}

System.out.println("Enter task name:");

String task = scanner.nextLine();

System.out.println("Enter task duration in minutes: [ maximum -- 60\*24=1440 mins ] ");

int duration = scanner.nextInt();

scanner.nextLine();

tasks.add(task);

durations.add(duration);

categories.add(category);

// write task to file

try {

FileWriter fw = new FileWriter(username + "\_Productivity\_Calculator.txt", true);

PrintWriter pw = new PrintWriter(fw);

pw.println("CATEGORY: " + category);

pw.println("TASK: " + task);

pw.println("DURATION: " + duration + " minutes");

pw.close();

} catch (IOException e) {

e.printStackTrace();

}

System.out.println("\nTASK ADDED SUCCESSFULLY");

int choice = 0;

while (choice != 5) {

System.out.println("\nWhat would you like to do next?");

System.out.println("1. Add Task");

System.out.println("2. Update Task");

System.out.println("3. Delete Task");

System.out.println("4. Display Tasks");

System.out.println("5. Exit");

System.out.print("\nEnter your choice: ");

choice = scanner.nextInt();

scanner.nextLine();

if (choice == 1) {

System.out.println("Enter task name:");

task = scanner.nextLine();

System.out.println("Enter task duration in minutes: [ maximum -- 60\*24=1440 mins ] ");

duration = scanner.nextInt();

scanner.nextLine();

System.out.println("\nIn which category do you want to add the task?");

System.out.println("1. Health");

System.out.println("2. Lifestyle");

System.out.println("3. Miscellaneous");

categoryChoice = scanner.nextInt();

scanner.nextLine();

category = "";

switch (categoryChoice) {

case 1:

category = "Health";

break;

case 2:

category = "Lifestyle";

break;

case 3:

category = "Miscellaneous";

break;

default:

System.out.println("Invalid category choice.");

break;

}

tasks.add(task);

durations.add(duration);

categories.add(category);

System.out.println("\nTASK ADDED SUCCESSFULLY");

try {

FileWriter fw = new FileWriter(username + "\_Productivity\_Calculator.txt", true);

PrintWriter pw = new PrintWriter(fw);

pw.println("TASK: " + task);

pw.println("DURATION: " + duration + " minutes");

pw.close();

}

catch (IOException e) {

e.printStackTrace();

}

}

else if (choice == 2) {

System.out.println("Enter the task name to update:");

String taskToUpdate = scanner.nextLine();

int taskIndex = tasks.indexOf(taskToUpdate);

if (taskIndex != -1) {

System.out.println("Enter the new task name:");

String newTaskName = scanner.nextLine();

System.out.println("Enter task duration in minutes: [ maximum -- 60\*24=1440 mins ] ");

int newDuration = scanner.nextInt();

scanner.nextLine();

tasks.set(taskIndex, newTaskName);

durations.set(taskIndex, newDuration);

System.out.println("\nTASK UPDATED SUCCESSFULLY");

try {

FileWriter fw = new FileWriter(username + "\_Productivity\_Calculator.txt");

PrintWriter pw = new PrintWriter(fw);

for (int i = 0; i < tasks.size(); i++) {

pw.println("CATEGORY: " + categories.get(i));

pw.println("TASK: " + tasks.get(i));

pw.println("DURATION: " + durations.get(i) + " minutes");

pw.println("-----------------------------");

}

pw.close();

}

catch (IOException e) {

e.printStackTrace();

}

}

else {

System.out.println("Task not found.");

}

}

else if (choice == 3) {

System.out.println("Enter the task name to delete:");

String taskToDelete = scanner.nextLine();

int taskIndex = tasks.indexOf(taskToDelete);

if (taskIndex != -1) {

tasks.remove(taskIndex);

durations.remove(taskIndex);

categories.remove(taskIndex);

System.out.println("\nTASK DELETED SUCCESSFULLY");

try {

FileWriter fw = new FileWriter(username + "\_Productivity\_Calculator.txt");

PrintWriter pw = new PrintWriter(fw);

for (int i = 0; i < tasks.size(); i++) {

pw.println("CATEGORY: " + categories.get(i));

pw.println("TASK: " + tasks.get(i));

pw.println("DURATION: " + durations.get(i) + " minutes");

pw.println("-----------------------------");

}

pw.close();

}

catch (IOException e) {

e.printStackTrace();

}

}

else {

System.out.println("Task not found.");

}

}

else if (choice == 4) {

System.out.println("\nTASKS:");

if (tasks.isEmpty()) {

System.out.println("No tasks found.");

}

else {

System.out.println("Category\tTask\t\t\tDuration");

System.out.println("-----------------------------------------------");

try {

FileWriter fw = new FileWriter(username + "\_Productivity\_Calculator.txt", true);

PrintWriter pw = new PrintWriter(fw);

pw.println("\nTASKS:");

pw.println("Category\tTask\t\t\tDuration");

pw.println("-----------------------------------------------");

for (int i = 0; i < tasks.size(); i++) {

String categoryFormatted = String.format("%-15s", categories.get(i));

String taskFormatted = String.format("%-30s", tasks.get(i));

String durationFormatted = String.format("%d minutes", durations.get(i));

System.out.println(categoryFormatted + taskFormatted + durationFormatted);

pw.println(categoryFormatted + taskFormatted + durationFormatted);

}

pw.close();

}

catch (IOException e) {

e.printStackTrace();

}

}

}

else if (choice == 5) {

System.out.println("EXITING APPLICATION");

int totalDuration = 0;

for (int d : durations) {

totalDuration += d;

}

int productiveHours = totalDuration / 60;

int productiveMinutes = totalDuration % 60;

int nonProductiveHours = (24 \* 60 - totalDuration) / 60;

int nonProductiveMinutes = (24 \* 60 - totalDuration) % 60;

if (totalDuration > 24 \* 60) {

System.out.println("Error: Total duration exceeds 24 hours.");

System.exit(1);

}

System.out.println("TOTAL TIME: 24 hours 0 minutes");

System.out.println("Productive Time: " + productiveHours + " hours " + productiveMinutes + " minutes");

System.out.println("Non-Productive Time: " + nonProductiveHours + " hours " + nonProductiveMinutes + " minutes");

try {

FileWriter fw = new FileWriter(username + "\_Productivity\_Calculator.txt", true);

PrintWriter pw = new PrintWriter(fw);

pw.println("Total productive time: " + productiveHours + " hours " + productiveMinutes + " minutes");

pw.println("Total non-productive time: " + nonProductiveHours + " hours " + nonProductiveMinutes + " minutes");

pw.close();

} catch (IOException e) {

e.printStackTrace();

}

System.out.println("Thank you for using the productivity calculator!");

System.exit(0);

} else {

System.out.println("Invalid input, please try again.");

}

}}}}