CSE101T Assignment 1

Game Character Creation System

Due: Wednesday, 22.10.2025 by 23:59

Deliverables

Submit a single Java file named `Assignment1.java` via **LMS System (Moodle)** by the due date and time specified. Late submissions will be subject to the course's late policy. Submissions via MS Teams **will not be graded.**

https://lms.akdeniz.edu.tr

Assignment Description

The Story

Welcome, game developer. Your first mission is to create the foundational code for a new digital monster game. Every great adventure needs a hero, or in our case, a monster. Before a monster can be trained or sent into battle, it must first be created. This assignment is all about that initial creation process. You will be building a "Monster Creation Tool" that guides a player through the steps of defining their very first monster, from its name to its elemental powers.

Program Inputs

Your program must interact with the user to get the following information, in order:

- **Monster's Name:** A `String` representing the name the user wants to give their monster.
- **Elemental Choice:** An `int` (1, 2, or 3) that corresponds to the monster's element (Fire, Water, or Earth).
- **Potential Choice:** An `int` (1 or 2) that corresponds to the monster's potential (Normal or Rare).
- **Destiny Number:** An `int` between 1 and 10 that provides a final, unique boost to the monster's stats.

Your Task

You are tasked with writing a Java program that accomplishes the following:

- Greet the user and present them with the creation options.
- Store all the inputs from the user in appropriate variables.
- Validate all numerical inputs to ensure they are within the allowed ranges. If an input is invalid, the program should print a specific error message and stop.

```
--- Welcome to the Digital Monster Creation Arena ---

Let's create your first monster. Give it a cool name: CSE101

Now, choose your monster's element. This choice will determine its core strength.
[1] Fire (Attack-oriented)
[2] Water (Health-oriented)
[3] Earth (Defense-oriented)
Your choice (1-3): 1

Every monster has a potential. Choose its potential:
[1] Normal (Standard stats)
[2] Rare (Bonus to all stats)
Your choice (1-2): 2

Finally, enter a number between 1 and 10 to influence its destiny: 10

Excellent choices! Your monster CSE101 is being created...

--- MONSTER PROFILE CARD ---
Name: CSE101
Element: Fire
Potential: Rare

Health Points (HP): 60
Attack Power (AP): 35
Defense Power (DP): 15
--------------------------
```

- If all inputs are valid, perform a series of calculations to determine the monster's final Health Points (HP), Attack Power (AP), and Defense Power (DP).
- Print a well-formatted "Monster Profile Card" to the screen, displaying the monster's final details and calculated stats.

Calculation and Logic

Your program must follow the steps below in sequence to determine the monster's final stats.

1. **Initial Stats:** Every monster begins with the following base stats:
   - Health Points (HP): 50
   - Attack Power (AP): 10
   - Defense Power (DP): 5
2. **Elemental Bonus:** Based on the user's chosen element, add a bonus to the corresponding stat.
   - **If Fire is chosen:** Add **+5** to Attack Power (AP).
   - **If Water is chosen:** Add **+20** to Health Points (HP).
   - **If Earth is chosen:** Add **+10** to Defense Power (DP).
3. **Potential Boost:** *After* the elemental bonus, apply a boost to *all* stats based on potential.

- **If Normal is chosen:** No changes are made.
- **If Rare is chosen:** Add **+10** to each of the current HP, AP, and DP values.

4. **Destiny Number Effect:** Finally, add the Destiny Number to the monster's **primary stat**.
    - If the element is **Fire**: Add the Destiny Number to Attack Power (AP).
    - If the element is **Water**: Add the Destiny Number to Health Points (HP).
    - If the element is **Earth**: Add the Destiny Number to Defense Power (DP).

Input Validation

Your program must check that the user enters valid values for numerical choices.

- If the user enters a value other than 1, 2, or 3 for the element, the program should display an error message and terminate.
- If the user enters a value other than 1 or 2 for the potential, the program should display an error message and terminate.
- If the user enters a value outside the 1-10 range for the Destiny Number, the program should display an error message and terminate.

Design (Error Outputs)

NOTE: You must not use `System.exit()`. Control the program flow using `if-else` structures. The main calculation and printing logic should only execute if all user inputs are valid.

Example Outputs

```
--- Welcome to the Digital Monster Creation Arena ---

Let's create your first monster. Give it a cool name: CSE101

Now, choose your monster's element. This choice will determine its core strength.
[1] Fire (Attack-oriented)
[2] Water (Health-oriented)
[3] Earth (Defense-oriented)
Your choice (1-3): 4

ERROR: Invalid element choice. Exiting program.
```

(a) Invalid element choice

```
--- Welcome to the Digital Monster Creation Arena ---

Let's create your first monster. Give it a cool name: CSE101

Now, choose your monster's element. This choice will determine its core strength.
[1] Fire (Attack-oriented)
[2] Water (Health-oriented)
[3] Earth (Defense-oriented)
Your choice (1-3): 3

Every monster has a potential. Choose its potential:
[1] Normal (Standard stats)
[2] Rare (Bonus to all stats)
Your choice (1-2): 3

ERROR: Invalid potential choice. Exiting program.
```

(b) Invalid potential choice

```
--- Welcome to the Digital Monster Creation Arena ---

Let's create your first monster. Give it a cool name: CSE101

Now, choose your monster's element. This choice will determine its core strength.
[1] Fire (Attack-oriented)
[2] Water (Health-oriented)
[3] Earth (Defense-oriented)
Your choice (1-3): 3

Every monster has a potential. Choose its potential:
[1] Normal (Standard stats)
[2] Rare (Bonus to all stats)
Your choice (1-2): 1

Finally, enter a number between 1 and 10 to influence its destiny: 11

ERROR: Destiny Number must be between 1 and 10. Exiting program.
```

(c) Invalid destiny number