Pokémon – Kanto Adventure

Image 1 - Artwork of the Kanto Region

Introduction

Welcome to the world of Pokémon, where you will embark on an epic journey through the Kanto region, capturing, training, and battling Pokémon to become the ultimate Pokémon Trainer. If you were a cool child growing up, you were definitely a Pokémon fan, from collecting cards, playing the Nintendo games and obsessing over the anime adaptation.

In this game, you will navigate through various cities, each with its unique Pokémon encounters and challenges. As a Trainer, your journey will be filled with battles against Gym Leaders, training your Pokémon and exploring the

vast Kanto region. Your progress, including your Pokémon team, badges, and location, will be saved, allowing you to continue your adventure from where you left off.

Problem Statement

The objective of this project is to develop a text-based Pokémon game that captures the essence of the beloved Pokémon franchise, focusing on the Kanto region. The game will be designed to run in a Text-based User Interface (TUI) but if you are willing, you can improve it and use a Graphical User Interface (GUI), utilizing Java as the programming language. The project aims to leverage your probleming solving skills while helping you develop your concepts of Data Structures (DS) and basic game logic.

The game will feature a variety of elements, including navigating through the Kanto region, capturing and training Pokémon, battling against Gym Leaders, and exploring the game's mechanics such as leveling up, saving progress, and managing the player's team. The game will also incorporate dynamic weather systems, challenging wild Pokémon encounters, and a system for players to evolve their Pokémon.

Main Features (13 Marks)

1. Path of Champions - Region Explorer (1.5 mark)

The Kanto Map is the heart of your journey. Each city is part of the journey and giving the player the ability to move around and do different stuff in different cities is crucial. The journey starts in the player's home town called "Pallet Town". Each city [except Pallet town and Lavender Town] has its unique Gym and Gym leaders [more information]. Each City will also have its own unique set of wild Pokémon the player can fight to train their own Pokémon, you can select each set as you like, but stick to the Pokémon found in the Kanto region . Try to keep the level of wild Pokémon slightly below but close to the Gym Trainer's Pokémon to ensure the player can train properly for each region.

Implementation Tips:

Each city can be a node, and the paths can be edges. Ignore the blue dots on the map for the sake of simplicity.

Image 2 - Map of Kanto from Pokémon Fire Red

You can use the image provided to implement your map and understand how each city connects.

Sample Output:

```
+---------------------------------------------------------------------+
You are currently in Viridian city:
+---------------------------------------------------------------------+
[1] Move to:
    a. Pallet Town    b. Pewter city
[2] Challenge Gym leader [Giovanni - Ground type]
[3] Fight Wild Pokemon [Pidgey, Ratata, Spearow are common]
```

```
[4] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
+-------------------------------------------------------------------------+
Your choice: 1b
+-------------------------------------------------------------------------+
Moving to Pewter City...
```

```
+-------------------------------------------------------------------------+
You are currently in Pewter City:
+-------------------------------------------------------------------------+
[1] Move to:
    a. Cerulean City    b. Viridian City
[2] Challenge Gym leader [Brock - Rock type]
[3] Fight Wild Pokemon [Pidgey, Meowth, Sycther are common]
[4] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
+-------------------------------------------------------------------------+
Your choice: 4a
+-------------------------------------------------------------------------+
Map of Kanto

[**Pewter City**]-------------------[Cerulean City]-----------------|
    |                                       |                      |
    |                                       |                      |
    |                                       |                      |
    |                                       |                      |
    |              [Celadon City]----[Saffron City]-----[Lavender Town]
    |                       |               |                      |
[Viridian City]             |               |                      |
    |                       |               |                      |
    |                       |               |                      |
    |                       |       [Vermillion City]--------------|
    |                       |                                      |
[Pallet Town]               |                                      |
    |                       |                                      |
    |                [Fuchsia City]-----------------------------------|
    |                       |
    |                       |
[Cinnabar Island]-----------|

+-------------------------------------------------------------------------+
```

This output shows the user's current location in Viridian City and presents options for movement, challenging a Gym Leader, catching wild Pokémon, and accessing player options. The user's choice to move to Pewter City is then executed, showcasing the dynamic and interactive nature of the game.

Among the Player Options the user can view the map as shown in the output, the map also highlights the user's current location using the asterisk symbols around that city. The other options include viewing the player's pokemon information and showing the number of badges earned.

2. Memory Cartridge - *Saving Progress (1 marks)*

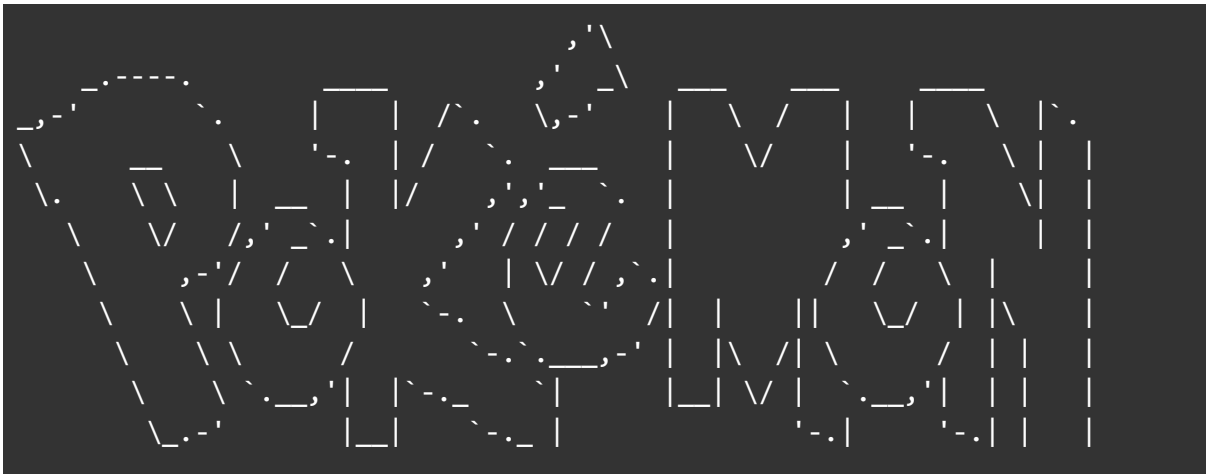
Image 3 - An old Nintendo Pokémon cartridge

The core objective of the Save Game feature is to enable players to persist their progress across game sessions. This feature is crucial for maintaining continuity in the gameplay experience, allowing players to save their current state, including the trainer's name, location within the Kanto Map, the Pokémon team they have collected, and any Gym Leaders defeated along with the badges they have earned. Upon loading the game, players should be

able to resume from their last saved state, ensuring that their progress is not lost and that they can continue their adventure from where they left off. They may also start a new game.

The progress can easily be saved and loaded by using File I/O and convenient file types (maybe JSON or xml ?).

Sample Output:



```
+------------------------------------------------------------------------+
Welcome to Pokemon - Kanto Adventures
+------------------------------------------------------------------------+
[1] Load Game:
    a. Save 1 - Amaan       b. Save 2 - empty      c. Save 3 - empty
[2] Start a new Adventure:
    a. Save 1 - Override    b. Save 2 - new        c. Save 3 - new
[3] Exit
+------------------------------------------------------------------------+
Your choice: 2b
+------------------------------------------------------------------------+
OAK:    Hello there! Welcome to the world of Pokémon! My name is Oak!
People call me the Pokémon Prof! This world is inhabited by creatures
called Pokémon! For some people, Pokémon are pets. Others use them for
fights. Myself... I study Pokémon as a profession.

OAK:    First, what is your name?
+------------------------------------------------------------------------+
Enter your name: Amaan
+------------------------------------------------------------------------+
OAK:    Right! So your name is Amaan! Welcome to the world of Pokemon.
It's time to choose your starting pokemon.
+------------------------------------------------------------------------+
[1] Bulbasaur [Grass - Level 5]
[2] Squirtle [Water - Level 5]
```

```
[3] Charmander [Fire - Level 5]
+---------------------------------------------------------------------+
Your choice: 1
+---------------------------------------------------------------------+
OAK:    You chose Bulbasaur, an amazing choice. Best of luck!
+---------------------------------------------------------------------+
You are currently in Pallet Town:
+---------------------------------------------------------------------+
[1] Move to:
    a. Viridian City    b. Cinnabar Island
[2] Talk to Mom [Your hometown has no Gym]
[3] Fight Wild Pokemon [Pidgey, Meowth, Sycther are common]
[4] Player Options
    a.Show map    b.Show My Pokemon   c.Show My badges   d.Save and Exit
+---------------------------------------------------------------------+
Your choice: 2
+---------------------------------------------------------------------+
MOM:    "Oh, Amaan! You're leaving on your adventure with Pokémon? How
exciting! I know you've always dreamed of this day. Remember, the bond
you share with your Pokémon is the most important thing. Take care of
them, and they'll take care of you. Don't worry about me; I'll be just
fine here. I can't wait to hear all about your adventures and the new
friends you're going to make. Remember, no matter how far you go, I'm
always here for you. Be brave, be kind, and everything will turn out
just fine. I'm so proud of you already! Now, go on, your adventure
awaits! Oh, and don’t forget to change your underwear every day! Safe
travels, my dear!"
+---------------------------------------------------------------------+
```

Yes, that is actual dialogue from the game. You can search through other original dialogue on the internet and maybe cycle some of the things the mom says here.

Try to keep the starting Pokémon close to the original (don’t start with Moltres, Zapdos and Articuno lol).

3. Pokémon Journeyer - Trainer / Player (1.5 mark)

Image 4 - Ash Ketchum and Pikachu from the Anime series

The Trainer class in your Pokémon game is a pivotal component that encapsulates the player's data and functionalities. It is designed to represent the player's character, including their name, current location, Pokémon team, badges, and progress.

```
+-------------------------------------------------------------------------+
You are currently in Pallet Town:
+-------------------------------------------------------------------------+
[1] Move to:
    a. Viridian City    b. Cinnabar Island
[2] Talk to Mom
[3] Fight Wild Pokemon [Pidgey, Meowth, Sycther are common]
[4] Player Options
    a.Show map    b.Show My Pokemon   c.Show My badges   d.Save and Exit
+-------------------------------------------------------------------------+
Your choice: 4c
+-------------------------------------------------------------------------+
Your Badges:
- None
+-------------------------------------------------------------------------+
```

As you can see, since the player just started the game. They have no badges.

```
+-------------------------------------------------------------------------+
You are currently in Pallet Town:
+-------------------------------------------------------------------------+
[1] Move to:
    a. Viridian City    b. Cinnabar Island
[2] Talk to Mom [Your hometown has no Gym]
[3] Fight Wild Pokemon [Pidgey, Meowth, Sycther are common]
[4] Player Options
    a.Show map    b.Show My Pokemon   c.Show My badges   d.Save and Exit
+-------------------------------------------------------------------------+
Your choice: 4b
+-------------------------------------------------------------------------+
Your Pokémon:
   -  Bulbasaur - Level: 6
+-------------------------------------------------------------------------+
```

The traditional path of difficulty for gyms is:

- Pewter City Gym
- Cerulean Gym
- Vermilion Gym
- Celadon Gym
- Fuchsia City Gym
- Saffron City Gym
- Cinnabar Island Gym
- Viridian City Gym

You need to vary the level of the Leaders' Pokémon and the area wild Pokémon according to the order given above. After the player has collected all 8 badges, congratulate them and play credits.

4. Elemental Creatures- The Pokémon (1.5 marks)

Image 5 - Ash Ketchum with his Kanto Pokémon

The core of the Pokémon game revolves around the Pokémon themselves, each with unique attributes and capabilities. The goal is to design and implement a Pokemon class in Java that encapsulates the essential characteristics and behaviors of a Pokémon, allowing players to train, and battle with them.

Requirements:

- **Pokémon Attributes:** Each Pokémon must have the following attributes:
    - **Name:** List of Pokémon in Kanto - No need to include all.
    - **Type:** Fire/Grass/Water etc.
    - **Level:** Determines the attack power and HP of the Pokémon.
    - **Moves:** Each Pokemon has 2 Fixed moves, use a map to map each move to its damage.
    - **Strength and Weakness:** Each Pokemon is weak against some types and strong against other types, they receive a 20% attack bonus for being strong and 20% reduction for being weak.

```
+--------------------------------------------------------------------------+
You are currently in Pewter City:
+--------------------------------------------------------------------------+
[1] Move to:
    a. Cerulean City    b. Viridian City
[2] Challenge Gym leader [Brock - Rock type]
[3] Fight Wild Pokemon [Pidgey, Meowth, Sycther are common]
[4] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
+--------------------------------------------------------------------------+
Your choice: 4b
+--------------------------------------------------------------------------+
Your Pokémon:
Bulbasaur - Level: 5
Type: Grass/Poison
HP: 18
XP: 35/100
Moves:
- Vine Whip [30 damage]
- Tackle [20 damage]
Strong Against:
- Water
- Ground
- Rock
Weak Against:
- Fire
- Flying
- Psychic
```

5. Pokémon Battle - *Fighting other Pokémon (1.5 Marks)*

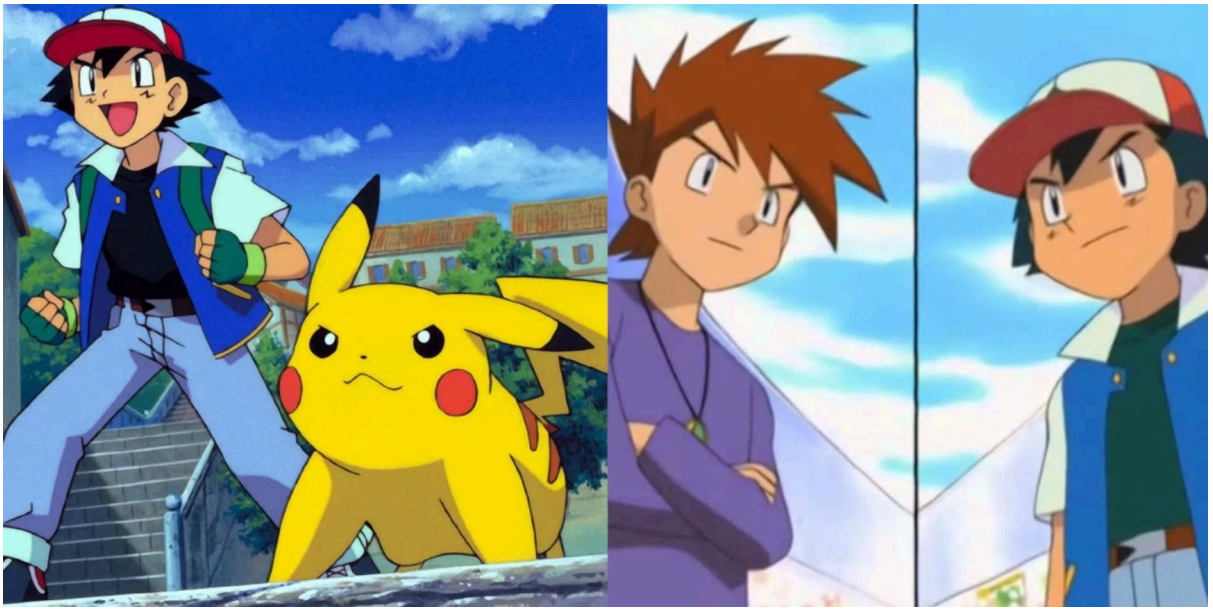


Image 6 - Two Pokémon trainers battling it out

The primary objective of this feature is to implement a comprehensive battle system within the Pokémon game. This system will facilitate encounters between the player and gym leaders or wild Pokémon, allowing for dynamic and strategic battles. The battle system will be designed to simulate the turn-based combat mechanics found in the Pokémon series, where each Pokémon can attack and defend in a sequence determined by their speed stat.

```
+-------------------------------------------------------------------------+
You are currently in Pewter City:
+-------------------------------------------------------------------------+
[1] Move to:
    a. Cerulean City    b. Viridian City
[2] Challenge Gym leader [Brock - Rock type]
[3] Fight Wild Pokemon [Pidgey, Meowth, Scyther are common]
[4] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
+-------------------------------------------------------------------------+
Your choice: 2
+-------------------------------------------------------------------------+
You are about to challenge Gym Leader Brock!
Prepare yourself for an intense battle!
Your Pokémon:
```

```
Bulbasaur - Level: 5
+---------------------------------------------------------------------+
Battle Start: Trainer Amaan vs. Gym Leader Brock!
Brock sends out Geodude [Level 8]!

Bulbasaur is sent out! Its grass type is strong against the opponent’s
geodude.

Round 1:
Bulbasaur's Moves:
1. Tackle
2. Vine Whip

Which move will Bulbasaur use?
Your choice: 2
+---------------------------------------------------------------------+
Bulbasaur used Vine Whip!
It's super effective!
Geodude's HP drops significantly. [Geodude HP: 20/60]

Geodude uses Tackle!
Bulbasaur takes some damage. [Bulbasaur HP: 35/45]

Round 2:
Bulbasaur's Moves:
1. Tackle
2. Vine Whip

Which move will Bulbasaur use?
Your choice: 1
+---------------------------------------------------------------------+
Bulbasaur uses Tackle!
Geodude's HP drops slightly. [Geodude HP: 10/60]

Geodude uses Rock Throw!
Bulbasaur takes some damage. [Bulbasaur HP: 25/45]

Round 3:
Bulbasaur's Moves:
1. Tackle
2. Vine Whip

Which move will Bulbasaur use?
Your choice: 2
+---------------------------------------------------------------------+
Bulbasaur uses Vine Whip!
```

```
It's super effective!
Geodude faints!

Bulbasaur gained 40xp.
Bulbasaur [XP: 70/100]

Brock sent out Onix. You have to defeat all his Pokemon.
+---------------------------------------------------------------------+
```

6. Pokémon Mastery *- Leveling up (1 mark)*

Image 7 - A Pokémon leveling up

What is the point of playing the game if you can level up and make your Pokémon stronger? The feature of Pokémon leveling up based on experience points (XP) and reaching certain XP thresholds is a critical aspect of gameplay that significantly impacts the progression and development of Pokémon within the game. This feature is designed to simulate the real-world mechanics of Pokémon games, where Pokémon gain XP from battles and

encounters, and level up to increase their stats, learn new moves, and evolve into more powerful forms.
Levels 1-10 take 100xp each.
Levels 10-30 take 200xp each.
And 30+ take 300xp each.
Everytime the pokemon defeats another pokemon, its xp increases by the (5*level of opponent) pokemon.

When the threshold of the XP is reached the pokemon's level increases.

```
Bulbasaur uses Tackle!
It's super effective!
Ratata faints!

Bulbasaur gained 40xp.
Bulbasaur [XP: 100/100]

Bulbasaur leveled up.
Bulbasaur[Level 4 --> Level 5]
```

Everytime a Pokémon levels up, its damage for all moves increases by 2. So if Bulbasaur's Tackle did 30 damage, now it does 32.

7. PokéMaze - Figure your way out (1.5 marks)

Image 8 - Inside the Pokémon tower

You were traveling through the ghost inhabiting town called Lavender Town, when you decided to enter the haunted Pokémon tower and got stuck. Now you have to figure your way out while avoiding Ghastlies who are hunting you.

Requirements:

- The program should display the initial maze with the starting point 'S' marked.
- The program should prompt the user to input directions (up, down, left, right) to navigate through the maze.
- The program should validate the user's input and only accept valid directions.
- The program should update the position of the player in the maze according to the user's input.
- The program should use a stack data structure to keep track of the path taken by the player.
- If the player touches the Ghastly they get caught.
- The program should continue prompting the user for directions until the player reaches the end point 'E'.
- Upon reaching the end point 'E', the program should display a congratulatory message.

Sample outputs:
[Note: Lavender town has no gym]

```
+--------------------------------------------------------------------------+
You are currently in Lavender Town:
+--------------------------------------------------------------------------+
[1] Move to:
    a.Cerulean City  b.Saffron City   c.Vermillion City   d.Fuchsia city
[2] Fight Wild Pokemon
[3] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
[4] PokeMaze
+--------------------------------------------------------------------------+
Your choice: 5
+--------------------------------------------------------------------------+
Welcome to the PokeMaze Challenge!
Find your way through the maze using stacks.
Legend: # - Wall, . - Path, S - Start, E - End, G - Ghastly
# # # # # # # # # # # # # # # # # # #
# S . . . . # . . . . . . . . . . . #
# # # # # . # . # # # # # # # # . # #
# . . . # . # . # . . . . . . # . # #
# # # . # . # # # G # . # . # # # #
```

```
# . . . # . . . # . . . # . . . #
# # # # # G # . # . # . # # # . #
# . . . . . . . . . # . . . . . #
# # # # # # # # # # # # # # # E #
Enter direction (up, down, left, right): right
# # # # # # # # # # # # # # # # #
# S Y . . . # . . . . . . . . . #
# # # # # . # . # # # # # # # . #
# . . . # . # . # . . . . . # . #
# # # . # . # # # G # . # . # # #
# . . . # . . . # . . . # . . . #
# # # # # G # . # . # . # # # . #
# . . . . . . . . . # . . . . . #
# # # # # # # # # # # # # # # E #
```

```
# # # # # # # # # # # # # # # # #
# S . . . Y # . . . . . . . . . #
# # # # # . # . # # # # # # # . #
# . . . # . # . # . . . . . # . #
# # # . # . # # # G # . # . # # #
# . . . # . . . # . . . # . . . #
# # # # # G # . # . # . # # # . #
# . . . . . . . . . # . . . . . #
# # # # # # # # # # # # # # # E #
Enter direction (up, down, left, right): right
Invalid move. Try again.
```

```
# # # # # # # # # # # # # # # # #
# S . . . . # . . . . . . . . . #
# # # # # . # . # # # # # # # . #
# . . . # . # . # . . . . . # . #
# # # . # . # # # G # . # . # # #
# . . . # . . . # . . . # . . . #
# # # # # Y # . # . # . # # # . #
# . . . . . . . . . # . . . . . #
# # # # # # # # # # # # # # # E #
Oh no! You encountered a Ghastly and got caught.
Game Over.
```

```
Enter direction (up, down, left, right): down
# # # # # # # # # # # # # # # # #
# S . . . . # . . . . . . . . . #
# # # # # . # . # # # # # # # . #
```

```
# . . . # . # . # . . . . . # . #
# # # . # . # # # G # . # . # # #
# . . . # . . . # . . . # . . . #
# # # # # G # . # . # . # # # . #
# . . . . . . . . . # . . . . . #
# # # # # # # # # # # # # # # Y #
Congratulations! You've reached the end of the maze.
```

8. Rival's Race - *Beat your rival (2 marks)*

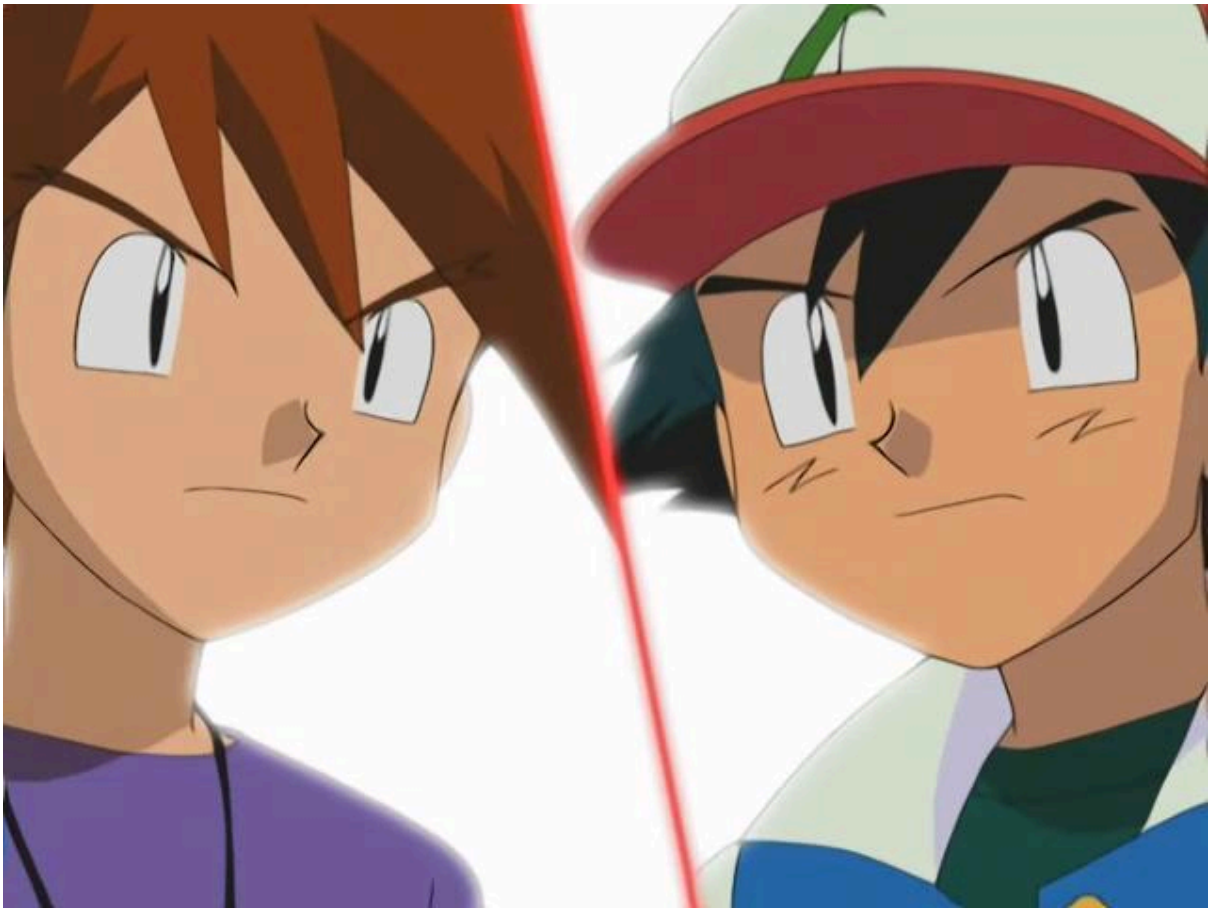


Image 9 - Gary (Left) and Ash Ketchum (Right)

In the heart of Saffron City, an epic rivalry unfolds as Gary, your lifelong rival, challenges you to a race. The stakes are high, and victory is within reach, but to emerge triumphant, you must navigate through the intricate streets and pathways of the city to reach the destination that Gary has chosen. Your task

is to uncover the shortest path to the city that Gary selects, outsmarting him and securing your place as the ultimate Pokemon trainer.

Requirements:

- The program should randomly select a destination for Gary to race to. This destination should not be directly adjacent to Saffron City.
- Utilize an efficient pathfinding algorithm to determine the shortest path from Saffron City to the randomly chosen destination. This algorithm should calculate the optimal route, considering the layout of the map and any obstacles in the way.
- Output Shorter Path: Display the shorter path from Saffron City to the selected destination, providing clear directions or coordinates for each step along the way.

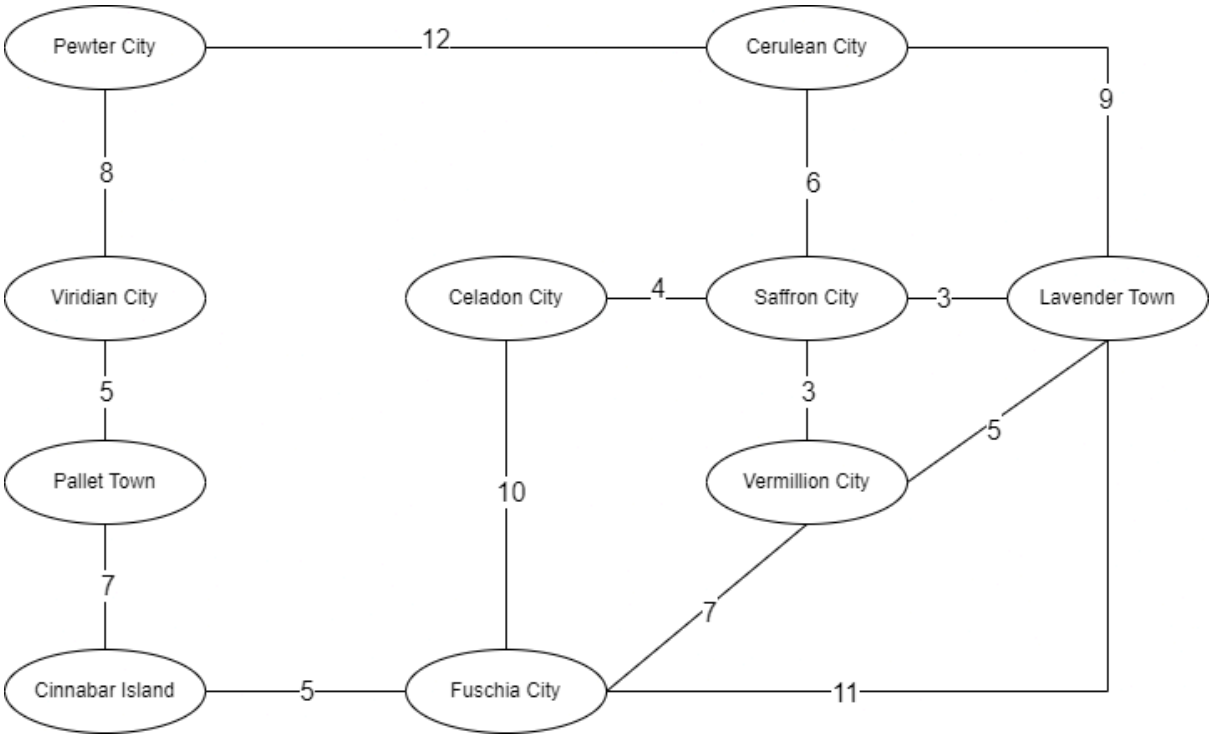


Image 10 - Map of Kanto with inter-city distances

Sample output:

```
+---------------------------------------------------------------------+
You are currently in Saffron City:
+---------------------------------------------------------------------+
[1] Move to:
    a.Cerulean City  b.Lavender Town  c.Vermillion City   d.Celadon City
```

```
[2] Challenge Gym leader [Sabrina - Psychic type]
[3] Fight Wild Pokemon
[4] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
[5] Rival's Race
+-------------------------------------------------------------------------+
Your choice: 5
+-------------------------------------------------------------------------+
```

```
The battle has begun! Your rival Gary has challenged you to a race to
Cinnabar Island.

Shortest Path:
Saffron City -> Vermillion City -> Fuchsia City -> Cinnabar Island

Goodluck on your race!
+-------------------------------------------------------------------------+
```

9. Safari Zone - *Queueing up the Pokémon (1.5 mark)*

Image 10 - Pokémon GO Safari Zone

Welcome to the Safari zone, where chaos reigns and organization is key! Lining up to enter the Safari Zone are a horde of pokemon, but they need to enter in a particular order to avoid chaos. You decide to help out and arrange

the Pokémon; but it's not as simple as arranging them alphabetically or by type. Each Pokemon has its own preferences and quirks that must be taken into account.

Your task is to arrange a group of randomly selected Pokemon in a specific order while adhering to their unique conditions and preferences. Which are:

- **Bulbasaur** refuses to be placed next to Charmander, his fire burns too hot.
- **Pikachu** demands to be placed at the center of the arrangement because, well, it's Pikachu!
- **Snorlax** insists on being positioned at the end of the lineup to ensure maximum relaxation.
- **Jigglypuff** prefers to be surrounded by other "cute" Pokémon for morale purposes. [She finds Pikachu cute]
- **Eevee** insists on being positioned either at the beginning of the lineup to showcase its adaptability.
- **Machop** demands to be placed next to the heaviest Pokemon in the lineup to show off its strength. [It's probably snorlax]

Requirements:

- Let the users enter the Pokémon in order.
- Make a list of the Pokémon and sort it.
- Display each step of the sorting.
- Display the sorted list.

Sample Output:

```
+---------------------------------------------------------------------+
You are currently in Fuchsia City:
+---------------------------------------------------------------------+
[1] Move to:
    a.Cinnabar Island  b.Lavender Town  c.Vermillion City d.Celadon City
[2] Challenge Gym leader [Koga - Poison type]
[3] Fight Wild Pokemon
[4] Player Options
    a.Show map   b.Show My Pokemon   c.Show My badges   d.Save and Exit
[5] Safari Zone
+---------------------------------------------------------------------+
```

```
Your choice: 5
+---------------------------------------------------------------------+
Welcome to the Safari Zone! Today's challenge: Sort the Pokémon!
+---------------------------------------------------------------------+
Enter the Pokémon in your party (separated by a comma): Pikachu,
Bulbasaur, Charmander, Snorlax, Jigglypuff, Eevee, Machop

You entered: Pikachu, Bulbasaur, Charmander, Snorlax, Jigglypuff, Eevee,
Machop

Sorting your Pokémon according to their unique preferences...

Step 1: Eevee insists on being positioned either at the beginning of the
lineup to showcase its adaptability.
Sorted List: Eevee, Pikachu, Bulbasaur, Charmander, Snorlax, Jigglypuff,
Machop

Step 2: Pikachu demands to be placed at the center of the arrangement.
Partial Sort: Eevee, Bulbasaur, Jigglypuff, Pikachu, Charmander,
Snorlax, Machop

Step 3: Snorlax insists on being positioned at the end of the lineup to
ensure maximum relaxation.
Partial Sort: Eevee, Bulbasaur, Jigglypuff, Pikachu, Charmander, Machop,
Snorlax

Step 4: Jigglypuff prefers to be surrounded by other "cute" Pokémon for
morale purposes.
Partial Sort: Eevee, Bulbasaur, Jigglypuff, Pikachu, Charmander, Machop,
Snorlax

Step 5: Bulbasaur refuses to be placed next to Charmander.
Partial Sort: Eevee, Bulbasaur, Jigglypuff, Pikachu, Machop, Charmander,
Snorlax

Step 6: Machop demands to be placed next to the heaviest Pokemon in the
lineup to show off its strength.
Final Sorted List: Eevee, Bulbasaur, Jigglypuff, Pikachu, Charmander,
Machop, Snorlax

+---------------------------------------------------------------------+
Your Pokémon are now sorted! Enjoy your adventure in the Safari Zone!
+---------------------------------------------------------------------+
```

Extra Features (2 Marks)

1. Graphical User Interface

Image 11 - A Game Boy Advance (GBA) Pokémon game

The Graphical User Interface (GUI) feature enhances the gaming experience by providing a visually appealing interface for players to interact with. Through intuitive menus, buttons, and graphical representations, players can seamlessly navigate through the Kanto region, engage in battles, and access various game features. The GUI adds a layer of immersion, bringing the Pokémon world to life with vibrant visuals and animations, making the gameplay experience more engaging and enjoyable.

2. Pokémon Evolution and Items

Image 12 - Pokémon evolution in Pokémon Fire Red

Pokémon evolution is one the most important aspects of the original games, although it is a bit complex. Some Pokémon just evolve after reaching a certain level, but some have more complex systems like weather conditions, items held, etc. If you are willing, you can implement those features.
Along with that you can also implement status ailments and healing items like Poisoned, Paralyze, etc. countered with Antidotes, Paralyze Heals, Potions, etc.

3. Account Creation

Ensuring the ability to save game progress is paramount in any gaming experience. Moreover, incorporating the functionality for multiple users to engage with the game through individual accounts presents a significant enhancement. This feature enables players to create and access their unique accounts, facilitating personalized gameplay experiences. Each user can log in to their respective account and seamlessly continue their adventure from the exact point where they last left off. By implementing user account management, the game not only offers convenience but also fosters a sense

of ownership and continuity for players, making their journey through the Pokémon Kanto region more immersive and enjoyable.

4. Database Implementation

For those seeking to elevate their game development skills, transitioning into the realm of databases offers a compelling opportunity. Whether for storing game progress or managing user accounts, implementing a database provides a structured approach to data management. By leveraging a database system, such as MySQL or SQLite, developers can establish a robust foundation for storing and retrieving game-related information. This not only enhances the reliability of data storage but also minimizes the risk of data loss or inconsistencies within the application. Integrating a database empowers developers to organize and access game data efficiently, ensuring a smoother and more seamless gaming experience for players traversing the Pokémon Kanto region.

Marks distribution

Main Features	Coding and correct outputs	13 marks
Extra Features		2 marks
Report	Proper explanations of code	5 marks
	Documentation (Java Doc comment format)	
	Collaboration (Git Commits and Contributions page)	

Doing just one of the extra features should get you the 2 marks, but if you feel like your main features are not fully functional, you can try to make up for those marks by doing more extra features or improving the game in any significant way you can think of.

Tips and Recommendations

From Amaan Geelani

- This assignment was created through my totally healthy obsession with the Pokémon franchise, both the games and the show.
- Try to understand how each class and object in the system interacts.
- Divide work on the basis of equal difficulty, use git and github to ensure easy collaboration.
- If you are not as obsessed with Pokémon, you should consider researching on the Bulbagarden Website about Pokémon, Gyms, Areas, Trainers, etc.

From Navid

- Commence the assignment well in advance to avoid rushing near the deadline, as procrastination could jeopardize timely completion.
- Ensure thorough incorporation and rigorous testing of all main features within your program to validate their functionality through repeated trials.
- Above all, immerse yourself in the Pokémon universe and relish the journey!

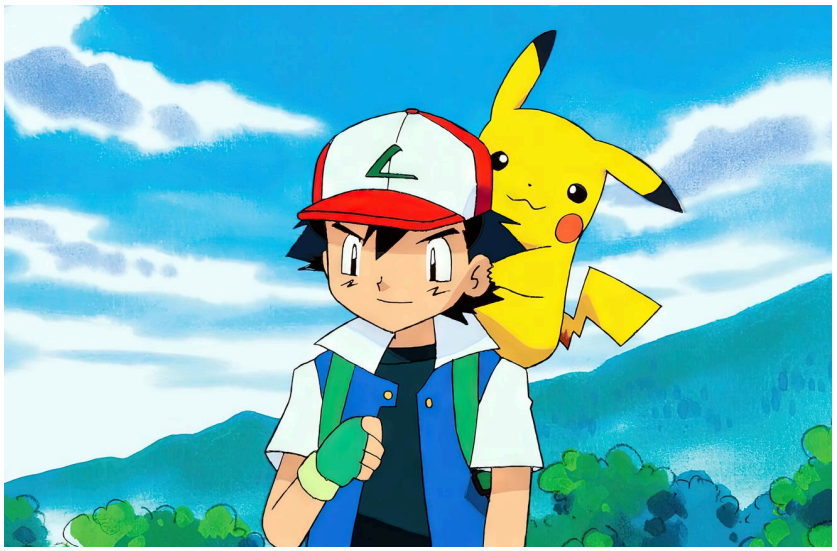


Image 13 - Ash and Pikachu

Contact Information

To stay updated about changes and updates to the assignment:

- https://github.com/isyedamaan/DS-Project-Pokemon

If you're seeking to address the individual responsible for the Pokémon assignment, or simply wish to discuss Pokémon-related topics, we've got you covered.

For those who wanna ask questions related to the assignment, feel free to contact us:

- Amaan Geelani Syed (s2191704@siswa.um.edu.my)
- Navid Razavi (s2110706@siswa.um.edu.my)

Whether you prefer online or in-person interactions, Amaan is down to talk about all aspects of the Pokémon world.

For any questions or feedback regarding the assignment, feel free to contact either of us. We're here to assist you and ensure you're equipped for your Pokémon adventure!

Image 14 - Ash, Pikachu, Brock and Misty from the Pokémon anime