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Professor Griffith

Cs -172-2

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Documentation

 Our project is based on pokemons where the user has the ability to choose 5 pokemons from the 721 in our list and our program will generate the other 5 that defeats the 5 chosen by the user. Our program goes through all the 721 pokemons and compares them with the 5 chosen by the user and gives 5 pokemons. Pokemons have different types and the pokemon type can have a huge impact on the outcome of the battle depending on what type of pokemon is it facing for example, if a Water type Pokemon goes against a Fire type Pokemon then the Water type Pokemon has an advantage over the fire type since water is more powerful that fire. This advantage can be shown through another csv file that we have which basically has a multiplier which multiplies with the total stats(Combination of all the stats of the pokemon) and changes the total stats depending on the type of Pokemon it is facing.

The code might not look impressive but the longevity of the code is something that is unique, as this can work with many different things other than pokemon. One purpose of the project is to show how we can compare different things. I can see the concept of our project being used by businesses to compare different projects they can invest in and decide the best one using numbers and ratios like ROA, ROI and other useful ratios. Information of 721 pokemons is a lot of data, however, we are positive that our program will run for a lot more pokemons so, this is another beauty of our project. Even if there is a new type of Pokemon, we can just add it in our array. We do not have a limit on how much data we can process.

 Like we mentioned, we have two CSV files with different formats. One file has the stats of all the 721 Pokemons in this format: #(Number in the pokeindex),Name,Type 1,Total,HP,Attack,Defense,Sp. Atk,Sp. Def,Speed,Generation,Legendary. There was also a “Type 2”,  in the original csv file but we removed it because we believed that it served no purpose and would make our code more complicated if we left it there as in the second csv file, there are 18 Pokemon types and the multiplier which is decided by which pokemon type is facing which pokemon type and, by including “Type 2”, it would be hard to figure out the multiplier for a Pokemon who is facing another Pokemon who has two types. The types are in this format : Normal,Fire,Water,Electric,Grass,Ice,Fighting,Poison,Ground,Flying,Psychic,Bug,Rock,Ghost,Dragon,Dark,Steel,Fairy.

Database.h

Csv files

Vectors:

PokeTeam

Winners

Opponents

Arrays:

arrayTypedata()

arraydata()

Function:

ComparePokemons()..

Pokemon.h

Attributes:

ID

Type

Hitp…

Functions:

Parsewords()

Gettotalstats()

Getfirstype()

We have two classes to keep our code cleaner and less complicated. The first is the database class where we open the csv files and do most of the stuff and the second is a pokemon class.

We opened the csv file with the stats of all pokemons in it and, we pushed it in a vector with Pokemon type so that we can pull the vector in the Pokemon class and parse it and match the data we parsed with the attributes we made for the class. Again, since it is a vector, we do not have to worry about memory space and can push in a lot more data.The Database class has all the data necessary for us to compare the two pokemons and then print out the winner between the two.

We put the 2nd CSV with the multiplier in a 2D array because we thought it was the best way to do it and we could not figure out how to properly use Enum. But, the 2d array works well but using enum would’ve made the code more simpler and maybe even look cooler. We used that to compare the total stats of two Pokemons with different or even the same type. We only compared the total stats for this project because it was the most logical thing to do and each and every pokemon had a hitpoint which made it easier to compare and,some Pokemons might be missing some other stat.

 Running our code is the simplest part of our program. First you build the project and run it and then, a long list of 721 pokemons pop up with their stats printed. The user can see a sentence on the screen that says, “Select your 5 Pokemons” . The user then chooses 5 pokemons of their choice from the options available to them. After that, the user just waits for the program to select and show them the 5 pokemons generated by the program that beats the user’s Pokemons.

 We would like to thank Scott, Professor Kent and our TA, Nirjal, for all the help they have provided. We got - pokemon1.csv file from: <https://gist.github.com/armgilles/194bcff35001e7eb53a2a8b441e8b2c6>

And, Pokemontype.csv from : <https://github.com/zonination/pokemon-chart/blob/master/chart.csv>