



It will have one c and one header file. The header file will define the list of functions used, and it is convenient for checking the functions that can be called. The c file will call the declaration of the header file to run the program.

The program uses header file to define, and use c file to implement functions, so the query program could open files to read data, matching input and data, then used pointers to store data into memory. The program can complete successful.

C language's rich library, memory management, pointers, and extension used to implement the requirements. C provides a lot of inbuilt functions that make the development fast, supports the feature of dynamic memory allocation, interact with the memory by using the pointers, and call the function within the function.

Four libraries will be use. `<stdlib.h>`, `<stdio.h>`, `<string.h>` and `<math.h>` used to define numeric conversion functions, memory allocation, process control functions, core input and output functions, string-handling functions and common mathematical functions. These used to initialize data, save data into memory and output.

Pokemon's data will be stored in memory. Using semaphore and mutexes to protect these data from corruption. Use a semaphore when thread want to sleep till some other thread tells you to wake up. Semaphore 'down' happens in one thread, and 'up' happens in another thread. Use a mutex when thread want to execute code that should not be executed by any other thread at the same time. Mutex 'down' happens in one thread, and 'up' must happen in the same thread later.