All functions

Functions

std::string fr_dict::find_word (const std::string &target)

Performs search to find the target word in Complexity O(N) because it needs to hash the target string first, where N is the size of the string.

string fr_dict::search_definition (int desired_row_number)

Looks for the stored definition of the word in the dictionary. It has complexity O(N) as it gets the entire line until it finds the number of line.

void fr_dict::load_dictionary ()

Loads the words into the hash_dictionary in O(N) time since it goes line by line.

void fr_dict::print_dictionary ()

Prints the hash dictionary in O(N).

bool fr_dict::first_run ()

Checks if it is the first run. O(1).

void fr_dict::process_xml (unsigned int entries)

Filters the selecteed amount of entries in the xml file. $O(N^2)$.

HashTable::HashTable ()

Construct a new Hash Table object, allocate item positions. O(N).

int HashTable::hash_function (const std::string &str)

simple hash function that increases the value on each loop according to the integer value of the char. O(N) where N is the str length.

void HashTable::insert (const std::string &str)

Linear probing to insert value. Worst case is O(N) for the last value if the keys happen to be poisoned (they are generated sequentially).

std::string HashTable::search (const std::string &str)

Searches in O(N) time where N is the length of the str to hash.

void HashTable::print_hash_table ()

Prints every location with a value in it. O(N).

bool Preprocess::not_first_run()

check if the preprocessing has been ran before. Complexity O(1) .

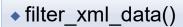
void Preprocess::filter_xml_data (unsigned int entries)

Filters data using the predefined regex patterns. Dumps definitions and words to separate files. Complexity $O(n^2)$.

Detailed Description

This is the functions group with its asymptotic analysis

Function Documentation



void Preprocess::filter xml data (unsigned int entries)

inline

Filters data using the predefined regex patterns. Dumps definitions and words to separate files. Complexity $O(n^2)$.

Parameters

entries is the number of dictionary entries to acquire

find_word()

std::string fr dict::find word (const std::string & target)

inline

Performs search to find the target word in Complexity O(N) because it needs to hash the target string first, where N is the size of the string.

Parameters

target Word to look for

Returns

int Index of the target word

See also

HashTable::search();

first_run()



hash_function()

int HashTable::hash_function (const std::string & str)

inline

simple hash function that increases the value on each loop according to the integer value of the char. O(N) where N is the str length.

Parameters

str String to hash

Returns

int Calculated key value of the string

HashTable()

HashTable::HashTable()

inline

Construct a new Hash Table object, allocate item positions. O(N).

insert()

void HashTable::insert (const std::string & str)



Linear probing to insert value. Worst case is O(N) for the last value if the keys happen to be poisoned (they are generated sequentially).

Parameters

str

load_dictionary()

void fr_dict::load_dictionary ()

in lines

Loads the words into the hash_dictionary in O(N) time since it goes line by line.

not_first_run()

bool Preprocess::not_first_run ()

inline

check if the preprocessing has been ran before. Complexity O(1) .

Returns

true it is NOT the first, files must NOT be generated

false it IS the first run and the files must be generated

print_dictionary()

void fr_dict::print_dictionary ()

inline

Prints the hash dictionary in O(N).

See also

HashTable::print_hash_table();

• print_hash_table()



search_definition()

string fr_dict::search_definition (int desired_row_number)

inline

Looks for the stored definition of the word in the dictionary. It has complexity O(N) as it gets the entire line until it finds the number of line.

Parameters

desired_row_number

Returns

string "Not found" if there is no definition, "Could not open file" if the file has been corrupted or the definition if it is found.

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