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Assignment: Homework 5.6, e.g., Lab1C

Homework 5.6

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2)

#include <string>

using namespace std;

/\*\*

Replaces a character of a string at a given position.

@param str the string where the replacement takes place

@param position the position of the character to be replaced

@param replacement the replacement string

@return str with the character at the position changed to

the replacement string, or the original string

if position was not valid.

\*/

string replace\_at(string str, int position, string replacement)

{

if(position < str.length()) //if position is valid

{

str.replace(position,1,replacement); //replace

}

return str;

}

3)

#include <string>

using namespace std;

/\*\*

Finds the nth occurrence of a given character in a string.

@param str the string

@param ch the character to search

@param n the occurrence count

@return the position of the nth occurrence of ch in str, or -1

if ch doesn't occur n times.

\*/

int find\_occurrence(string str, string ch, int n)

{

int occurrence = 0; //keeps track of occurrence

for(int i = 0; i < str.length(); i++)

{

if(str.substr(i,1).compare(ch) == 0)

{

occurrence++;

if(occurrence == n)

{

return i; //returns i only when occurrences match

}

}

}

return -1; //if not found return -1

}

4)

#include <string>

using namespace std;

int find\_occurrence(string str, string ch, int n);

string replace\_at(string str, int position, string replacement);

/\*\*

Replaces all pairs of straight quotes with curly quotes.

@param str the string to process

@return str with adjacent pairs of straight quotes changed to

curly quotes

\*/

string smart\_quotes(string str)

{

string result = str;

string left\_quote = "“";

string right\_quote = "”";

int posA, posB;

posA = find\_occurrence(result, "\"", 1);

posB = find\_occurrence(result, "\"", 2);

while (posA >= 0 && posB >= 0) //checks for 2 “”

{

result = replace\_at(result, posA, left\_quote);

posB = find\_occurrence(result, "\"", 1);

result = replace\_at(result, posB, right\_quote);

posA = find\_occurrence(result, "\"", 1);

posB = find\_occurrence(result, "\"", 2);

}

return result;

}

/\*\*

Finds the nth occurrence of a given character in a string.

@param str the string

@param ch the character to search

@param n the occurrence count

@return the position of the nth occurrence of ch in str, or -1

if ch doesn't occur n times.

\*/

int find\_occurrence(string str, string ch, int n)

{

int count = 0;

for (int i = 0; i < str.length(); i++)

{

if (str.substr(i, 1) == ch)

{

count++;

if (count == n) { return i; }

}

}

return -1;

}

/\*\*

Replaces a character of a string at a given position.

@param str the string where the replacement takes place

@param position the position of the character to be replaced

@param replacement the replacement string

@return str with the character at the position changed to

the replacement string, or the original string

if position was not valid.

\*/

string replace\_at(string str, int position, string replacement)

{

if (0 <= position && position < str.length())

{

return str.substr(0, position) + replacement +

str.substr(position + 1);

}

else

{

return str;

}

}