```
/*
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Assignment: Homework 5.6, e.g., Lab1C

Homework 5.6
*/

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;
  }
}
```