findmax.cpp

```cpp
/**
 * a program illustrating the right and wrong way to return a new value from a
 * function whose parameter is a reference to an object
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 * @version 15 January 2020
 */

#include <iostream>
#include <vector>
using namespace std;

const string& find_max_right(const vector<string>& words);
const string& find_max_wrong(const vector<string>& words);

int main()
{
  vector<string> names {"ann", "zoe", "kia", "meg", "liz", "ali"};

  string max_name_right = find_max_right(names);
  cout << "The last name alphabetically is " << max_name_right << endl;

  string max_name_wrong = find_max_wrong(names);
  cout << "The last name alphabetically is " << max_name_wrong << endl;
  return 0;
}

const string& find_max_right(const vector<string>& words)
{
  size_t max_index = 0;

  for (size_t i = 1; i < words.size(); i++)
  {
    if (words.at(max_index) < words.at(i))
    {
      max_index = i;
    }
  }

  return words.at(max_index);
}

const string& find_max_wrong(const vector<string>& words)
{
  string max_value = words.at(0);

  for (size_t i = 1; i < words.size(); i++)
  {
    if (max_value < words.at(i))
    {
      max_value = words.at(i);
    }
  }

  return max_value;
}
```