Homework 7

Dr. Manna

CS 10 | 30 points | due: 03/01/17 @ 11:59 pm

Problem statement

1. (5 points) Write a function that takes a string parameter and returns reverse of it. For example, if the string is `"yes i can"`, then the function should return `"nac i sey"`. *The only built-in string function you can use is length.*

   Sample output:

   ```
   Enter a string: yes i can
   Reversed string: nac i sey

   // try out with more examples
   ```

2. (10 points) Another cipher, which has been historically used by the Freemasons, is removing all the vowels from a word.

   Write a function `string remove_vowels(string s)` that returns a copy of the string s, with vowels removed.

   For example, can you guess what was sent as input to the function, that resulted in: **"**`t's mpssbl t hv t mch fn`**"**? *The only built-in string function you can use is length.*

3. For all 3 parts, *the only built-in string function you can use is length*. Note that much as the characters 'a'-'z' are always encoded sequentially, the characters '0'-'9' are always encoded sequentially. Your .cpp file should have all three functions, and you should have an appropriate main to test each of these.
   a. (5 points) Write a function **`bool isdigit(char c)`** that returns true if c is a digit 0-9 and false if it isn't.
   b. (5 points) Write a function **`int c_to_digit(char c)`** that returns the number version of the character passed in; e.g. **`c_to_digit('9')`** will return the number 9. Return -1 if the character passed in is not a digit. You MUST use your function from problem 3.a.
   c. (5 points) Write a function **`int s_to_digit(string s)`** that returns the number version of the string passed in; e.g. `s_to_digit('253')` will return the number 253. Return -1 if any character in the string is not a digit. You MUST use your function from problem 3.b.

Hint: remember that 253 = 2*100+5*10+3*1.

Note: Do not use built-in `pow` for this; use the pow function provided below:

```
int pow(int n, int ex) {
  int ret = 1;
  for(int i=0; i<ex; i++) {
    ret = ret*n;
  }
    return ret;
}
```

Submission instructions

Please upload .cpp files for all questions to Camino under Assignment→ Homework 7→ …. Please email me or use the discussion board for clarification. Please make sure your code has comments and they should be properly indented.