**CSE 135: Fundamentals of Computer Programming**

**Lab 8: Classes and Strings**

**October 29, 2014**

1. Create a class of BMI to measure the Body Mass Index of a person. Formula to calculate BMI is:

BMI = weight (kg) / [height (m)]2

The standard weight status categories associated with BMI ranges for adults are shown in the following table.

|  |  |
| --- | --- |
| **BMI** | **Weight Status** |
| Below 18.5 | Underweight |
| 18.5 – 24.9 | Normal |
| 25.0 – 29.9 | Overweight |
| 30.0 and Above | Obese |

1. Design an extended version of String class which should provide following functionalities:
   * 1. Given a string and a character, your class should return the number of occurrences of that character in the given string. For example, if the string “Java” and character ‘a’ is given then the output should be 2 because the character ‘a’ occurred twice in the string “Java”
     2. Print the reverse of any given string. For example, “star” will become “rats”
     3. Return true if the given string is palindrome or not else return false. For example, if “Eve” is given, then the output would be true but for “Adam” the output is false.
     4. If a string input is not a palindrome then convert it to palindrome by appending the same word in reverse order. For example, if “cake” is given as input then the output would be “cakeekac”
     5. Given a sentence as input, determine whether all the alphabets from A-Z or a – z is covered or not. Note: alphabets case doesn’t matter