

# CS 103 Computer Programming

## Assignment Number 3

February 18, 2014

**Deadline:** Thursday 21st February, 2014 before 23h30

### Attention

- Make sure that you read and understand each and every instruction. If you have any questions or comments you are encouraged to discuss your problems with your colleagues (and instructors) on Piazza.
- Plagiarism is strongly forbidden and will be very strongly punished. If we find that you have copied from someone else or someone else has copied from you (with or without your knowledge) both of you will be punished. You will be awarded straight zero in this assignment or all assignments.
- Submit a single '.cpp' file for your assignment.

**Q1: Implementation of String Class** Your goal is to implement a generic 'String' class using cstring. Your implemented class must fully provide the definitions of following class (interface) functions . Please also write down the test code to drive your class implementation.

```
1  class String{
2  // think about the private data members...
3  public:
4  // provide definitions of following functions...
5      String(); // default constructor
6      String(char *str); // initializes the string with constant cstring
7      String(int x); // initializes a string of pre-defined size
8      char getAt(int i); // returns the character at index [x]
9      void setAt(int i, char c); // set the character at index [x]
10     String substr(int pos, int len); // returns a substring of length len
11                                     // starting from location 'pos'
12     String substr(int pos); // returns substring from the given position to the end.
13     void append(char a); // append a char at the end of string
14     void append(String str ); // append a String at the end of string
15     void append(char *str ); // append a constant c string at the end of string
16     int length(); // returns the length of string
17     char* tocstring(); // converts a String to c-string
18     void display(); // displays the string ..
19     bool isEmpty(); // returns true if string is empty..
20     void copy(const String&); // Copy one string to another ...
21     void copy(const char *); // copy cstring to String...
22     int find(char); // returns the index of character being searched.
23     bool equal(String); // should return true if both strings are same
24     int stoi(); // function for converting a string to integer.
25
26     ~String(); // destructor...
27 };
```