University of Central Punjab

Faculty of Information Technology

Object Oriented Programming

Lab 09	
Topic	Classes in C++ , Overloaded Constructors, shallow vs deep copy, copy constructor ,destructor,setterGetters, operator overloading
Objective	Making students familiarize with classes and their implementations in C++, methods, constructors,settersGetters, char * as attribute shallow vs deep copy, copy constructor ,destructor and access Specifiers, const attributes, objects and functions, operator overloading

Instructions:

- Comment your code.
- Use meaningful variable names. .
- Name of the program should be same as the task name. i.e. the first program should be Task_1.cpp

- **void main() is not allowed. Use int main()**
- **You are not allowed to use system("pause")**
- **You are not allowed to use any built-in functions**
- **REMEMBER:** MAKE YOUR OWN DEEP COPY AND STRING LENGTH FUNCTIONS.DONOT USE STRING LIBRARY FUNCTIONS.THEIR DECLARATIONS CAN BE:
  void deepCopy(char* &dest, const char* src);
  int strLength(const char* src);
- **Make separate files known as helperFunctions.h and helperFunctions.cpp for strLength and deepCopy functions etc.**
- **You are required to follow the naming conventions as follow:**
  Variables: firstName; (no underscores allowed)
  Function: getName(); (no underscores allowed)
  ClassName: BankAccount (no underscores allowed)

Students are required to complete the following tasks in lab timings.

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Task 1:

Define a class MyChar having following attributes.

- Char ch
- Static int charCount;

Now do the following operations on above mentioned class:

1. Write **parameterized constructor with default arguments** (with input validation)**.**
2. Write separate setter functions for each attribute to set value (with input validation).
3. Write separate getter functions for each attribute to get value.
4. Write a **display** function to display to show total charCount.
5. Write a function to return Total CharCount.