Programming Lab Test 1 (Toal time = 2 hours)
Date: 14 September 2017

Instructions

1. This is a closed book test using the Automated Programming Assessment System (APAS).
2. Answer a total of 10 questions.
3. Each question carries 10 marks. Total marks = 100.
4. The submitted question code will be marked according to its correctness on internal test cases. If the question code is unable to compile, you will get 0 mark for that question. Marks will be awarded accordingly based on the correctness of each test case.
5. If you need a piece of rough paper to draft your code, please ask the lab technician for it.
6. Program templates for the questions will be given in the test. Please follow the input/output formats given in the sample inputs and outputs of each question. You may include any library functions in the program (if the question allows). However, **DO NOT CHANGE the code in the main() function inside the program template.**

Test Questions

A. Section A – Arrays [Answer 1 question in this section]

1. findMinMax1D
2. reverseAr1D
3. swap2RowsCols2D
4. diagonals2D
5. transpose2D
6. minOfMax2D
7. reduceMatrix2D

B. Section B – Character Strings [Answer 1 question from this section]

1. sweepSpace
2. processString
3. stringncpy
4. findTarget
5. cipherText
6. findMinMaxStr
7. countSubstring

C. Section C – Structures [Answer 1 question from this section]

1. computeCircle
2. computeExp
3. findMiddleAge
4. computeAverage
5. encodeChar
6. customer

7. phonebook
8. mayTakeleave

D. Section D – Recursive Functions [Answer 1 question from this section]

1. rNumDigits1
2. rDigitPos2
3. rSquare1
4. rCountZeros2
5. rStrLen
6. rReverseAr
7. rCountArray

E. Section E – Arrays [Answer 2 questions from this section]

1. absoluteSum1D
2. findAverage2D
3. find2Max1D
4. findMinMax2D
5. symmetry2D
6. swapMinMax1D
7. platform1D
8. compress2D
9. arInsert1D
10. arRemove1D

F. Section F – Character Strings [Answer 2 questions from this section]

1. insertChar
2. compareStr
3. countWords
4. longWordLength
5. longestStrInAr
6. palindrome
7. strIntersect
8. maxCharToFront
9. mergeStr
10. findSubstring

G. Section G – Structures and Recursion [Answer 2 questions from this section]

1. rAge
2. rDigitValue2
3. rPower1
4. rGcd1
5. rAllOddDigits1
6. rPrintArReverse
7. rFindMaxAr
8. rLookupAr
9. rStrcmp
10. rReverseDigits