

COE 301/ ICS 233, Term 161

Computer Architecture & Assembly Language

Programming Assignment# 1 Due date: Tuesday, Oct. 18, 2016

Q.1. Write a MIPS assembly program to do the following computations on the Array defined below:

.DATA

Array: .word 10, 15, 25, 35, 45, 55, 65, 75

- i. Compute the average of the given array below rounded to the nearest integer and save the result in register \$s1 without the use of division instruction.
- ii. Compute the overall parity of the 8 words (i.e. whether the number of 1's in the binary representation of 8 words is even or odd) and store the result in register \$s2.

Include snapshot of the simulator to show the content of registers \$s1 and \$s2.

*The assignment can be solved in groups of two. The solution should be well organized and your program should be well documented. Submit a soft copy of your solution in a zip file. Your solution should be submitted in a **word file** that contains the following items:*

- i. Your name and ID*
- ii. Assignment number*
- iii. Problem statement*
- iv. Your solution along with the code*
- v. Discussion of what worked and what did not work in your program. Include snapshots that demonstrate the working parts of your program. If things did not work and you attempted to solve them, mention that and write about the difficulty that you have faced.*