Objectives: Appreciating MIPS64 instruction set
Grouping: 3 per group
**Deadline: March 7, 2015, 1159pm. Filename is : GRPx.txt; 1ˢᵗ line in your program is a comment
containing the group member.**

MIPS64 programming project (draw lots on Monday 2/23/2015)
 1.) Sorting algorithm (Bubble Sort)- array of 20 integers. Three array – reversed, nearly sorted and
      random Show output of the array per steps for all three cases
 2.) Sorting algorithm (Insertion Sort)- array of 20 integers. Three array – reversed, nearly sorted and
      random Show output of the array per steps for all three cases
 3.) Sorting algorithm (Selection Sort)- array of 20 integers. Three array – reversed, nearly sorted and
      random Show output of the array per steps for all three cases
 4.) Fibonacci number. User input for the nth number. Starts at 0. Show all the sequence of the
      number.
 5.) Power series – User input an integer number X. Compute for $\sum_{n=1}^{x} x^n$ (Example: if x=3, the
      answer = 3^1 + 3^2 + 3^3)
 6.) Evil number – user input an integer number X, determine if the number is an evil number. Even
      number is define as a positive number that has an even number of 1s in its binary equivalent.
      Example: 255 is an evil number since its binary is 1111 1111, which has even number of 1.
 7.) Happy number – user input an integer number X, determine if the number is a happy number.
      Happy number is define as a number if the "iteration of sum-of-square digits will eventually
      reached 1". Example: 130 is a happy number since $1^2 + 3^2 + 0^2 = 10$ and $10 = 1^2 + 0^2 = 1$
 8.) Harshad number – user input an integer number X, determine if the number is a Harshad number.
      Harshard number is define as a positive integer which is divisible by the sum of its digits.
      Example: 24 = 2+4 =6 and 24 is divisible by 6
 9.) Matrix Multiplication
      a. Assume square matrix (i.e 2x2, 3x3, etc).
      b. For simplicity, variable DIM contains the dimension (2 to 9); array ARR1 contains the first
            array in row major form and array ARR2 contains the 2ⁿᵈ array in column major form.
      c. You can initialize the value of DIM, ARR1,ARR2 in the program already (i.e, fixed input, no
            need for user input).
      d. Output the result in row major format (showing the operands and the output)