CSE222 Computer Architecture

Homework Set 6

1. Write a MIPS program:
2. Define a function to check if a number (the input parameter) is the power of 2 or not, return an int value to represent result: **1 means yes, 0 means no**
3. Define another function to implement the same functionality. The implementation should be different as in (1).
4. Generate a random number, call function defined in either (1) or (2) by passing this number to it. Display message to show result: “the number {value} is the power of 2”, or “the number {value} is not the power of 2”.
5. Write a MIPS program:
6. Define a function to display an array.

(Clue: to pass an array to a function, you should specify 2 parameters: the **base address** and the **size/length** of the array)

1. Define a function to shuffle an array.
2. Define an array of size 20. Initialize the array with numbers from 1 to 20. After initialized, the array will be {1, 2, 3, …, 20}, then:
3. Call function defined in (1) to display this array.
4. Call function define in (2) to shuffle array.
5. Call function define in (1) again to display shuffled array.