Assignment No. VII, Wednesday
Computer Organisation - CS220

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1. Write a recursive MIPS code to print the nth number of Fibonacci sequence

2. The objective of this assignment is to implement bucket sort for floating point numbers in both **MIPS assembly language**. We generally use bucket sort when the set of inputs are uniformly distributed over a range.

Algorithm 1 Sort a set of floating point numbers using bucket sort

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Require: Input: $arr[]$ is an array of unsorted p floating point numbers, n is the number of buckets where $n > 0$.

Require: Output: $bucket[]$ is an array with sorted p floating point elements.

1. Create n empty buckets.
2. Do for each array element $arr[i]$:

2a. ..... Insert $arr[i]$ into $bucket[n * array[i]]$.

3. Sort individual buckets using insertion sort.
4. Concatenate all sorted buckets.

Test Data: { 0.897, 0.565, 0.656, 0.1234, 0.665, 0.3434, 0.1126, 0.554, 0.3349, 0.678, 0.3656, 0.9989 };