

Assignment No. VII, Monday

Computer Organisation - CS220

1. Write an MIPS code to find out that will compute x^y where x and y are two inputs. The inputs and outputs are limited to a 32 bit integer, and you must use the multiply and squaring method to compute the exponentiation.
2. Tower of Hanoi is a puzzle where you are provided with three rods (A, B, and C) and N disks. All the disks are placed in decreasing value of diameter on rod A i.e., the smallest disk is placed on the top. Your task is to move the entire set of disks to rod C, obeying the following rules:
 - Only one disk can be moved at a time.
 - A disk can only be moved if it is the uppermost disk on a stack.
 - No disk may be placed on top of a smaller disk.

The pseudo-code of this is given below:

Algorithm 1 hanoi(disk_num,start,end,middle)

```
1: if disk_num==0 then
2:   return
3: end if
4: hanoi(disk_num - 1, start, middle, end);
5: move disk from start to end
6: hanoi(disk_num - 1, middle, end, start);
```

Write a MIPS code where *disk_num* is given as the input.