



**CSE 332L: Computer Organization and Architecture**  
**Sec – 2, Faculty - TnF**  
**Lab Instructor: Sheikh Shadab Towqir**  
**Project: Summer 2018**

Design a 24-bit single cycle CPU that can perform R-type, I-type and J-type instructions. For each type of instruction format, the minimum set of operations that your design needs to perform are listed below.

**R-type:**

ADD  
SUB  
NAND  
NOR  
AND  
OR  
SLT  
SLL  
SRL

**I-type:**

LW  
SW  
BEQ  
BNE  
ADDI  
SUBI

**J-type:**

J