**COL351: Analysis and Design of Algorithms**
**Instructor:** Ragesh Jaiswal

1. Any remaining problems from previous tutorials.

2. Given $n$ integers $x_1, ..., x_n$ and an integer $P$, a set $S = \{(i,j) : i < j \text{ and } x_i + x_j \geq P\}$ is said to be *valid pair set* if each $i$ is present in at most one pair in $S$. Design an algorithm that outputs a valid pair set with largest cardinality.

3. Given three integer arrays $A[1...n], B[1...n], C[1...n]$ and an integer $W$, design an algorithm to determine if there exists indices $i, j, k$ such that $A[i] + B[j] + C[k] = W$.