

Assignment # 6; Due March 31 at start of class

Consider the Boolean CNF expression $E = (a+b+\sim c+d+e)(\sim b)(\sim a+\sim d)(b+c+\sim e)$

1. Recast E in 3-CNF form (that is, with each term being a disjunct of three items)
2. Present the table that represents a conversion of E 's satisfiability to an instance of SubsetSum
3. Explicitly write down the numbers that comprise this instance of SubsetSum
4. Show a solution to this SubsetSum instance that encodes a solution to E 's satisfiability
5. Recast the SubsetSum instance you have as an instance of Partition
6. Show an explicit solution to this instance of Partition -- that's easy given (3)
7. Recast the 3-CNF form of E as an instance of k-Vertex Covering and present a solution to the latter
8. Recast the 3-CNF form of E as an instance of k-Coloring and present a solution to the latter