Assignment Instructions: Module 8 - DEA

Purpose
The purpose of this assignment is to explore the use of DEA. Students will formulate and solve
DEA problems under different assumptions. They will then compare and contrast these results.
In addition, this will help you master the following module outcomes:
• Formulate models for DEA.
• Solve models for DEA.
• Interpret DEA results.
• Apply DEA results.

Directions
Hope Valley Health Care Association

The Hope Valley Health Care Association owns and operates six nursing homes in adjoining
states. An evaluation of their efficiency has been undertaken using two inputs and two outputs.
The inputs are staffing labor (measured in average hours per day) and the cost of supplies (in
thousands of dollars per day). The outputs are the number of patient-days reimbursed by third-
party sources and the number of patient-days reimbursed privately. A summary of performance
data is shown in the table below:

DMU	Staff hours per day	Supplies per day	Reimbursed patient-days	Privately paid patient-days
Facility 1	100	0.3	15000	3500
Facility 2	300	0.6	15000	20000
Facility 3	320	1.2	40000	11000
Facility 4	500	2	28000	42000
Facility 5	350	1.4	20000	25000
Facility 6	340	0.7	14000	15000

Questions
1. Formulate and perform DEA analysis under all DEA assumptions of FDH, CRS, VRS,
IRS, DRS, and FRH.
2. Determine the Peers and Lambdas under each of the above assumptions
3. Summarize your results in a tabular format
4. Compare and contrast the above results