**CS 451**

**Activity 8**

**(As a group of two or three team members)**

**When an organization’s problem is solved, the following seven-step model-building procedure should be followed:**

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| 1. Formulate the Problem
	* Define the problem.
	* Specify objectives.
	* Determine parts of the organization to be studied.
2. Observe the System
	* Determine parameters affecting the problem.
	* Collect data to estimate values of the parameters.
3. Formulate a Mathematical Model of the Problem
4. Verify the Model and Use the Model for Prediction
	* Does the model yield results for values of decision variables not used to develop the model?
	* What eventualities might cause the model to become invalid?
5. Select a Suitable Alternative
	* Given a model and a set of alternative solutions, determine which solution best meets the organizations objectives.
6. Present the Results and Conclusion(s) of the Study to the Organization
7. Implement and Evaluate Recommendations
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**Suggest the seven-step model-building procedure to develop the following police patrol scheduling system (PPSS).**

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| * Taylor and Huxley (1989) developed a police patrol scheduling system (PPSS).
	+ All San Francisco (SF) police precincts use the PPSS to schedule their officers.
	+ It is estimated that the PSS saves the SF police more than $5 million annually.
	+ Other cities have also adopted PPSS.
* Following the seven-step model here is a description of PPSS.
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