**Chapter 5b - Review Questions**

1. **Explain the DFD leveling technique.**

* DFD Leveling is a technique which starts with a parent diagram (context diagram for example) and explodes the diagram into a series of increasingly more detailed DFDs until all functional primitives are identified. A Diagram 0 is an example of this (also called a child diagram).

1. **What is a balanced DFD?**

* A balanced DFD is one where both the parent and child have the same input and output data flows. This is important to maintain the integrity of the data flows as the DFDs are exploded down further.

1. **Describe the steps in creating a decision table.**

* A decision table is a logical structure that shows every possible combination of conditions and outcomes. It is used to describe a process and make sure that all possible situations are considered. The initial step is to identify the Y (yes) and N (no) patterns. Then you analyze the logic from the Y/N data and show the outcome for each rule. When all outcomes are determined, you would simplify the table by eliminating any that don’t control the outcome or are unrealistic, duplicates or redundant. Conditions that don’t affect the outcome are represented with dashes in the decision table. Then you combine and renumber the rules of the decision table to simplify it.

1. **Discuss the pros and cons of decision tables versus decision trees.**
   * Decision Tables vs. Decision Trees:
   1. Decision Tables: These are often the best options for dealing with a complex set of conditions. They are easy to construct and understand, and programmers find it easy to work from a decision table when developing code. The decision table would not be a good choice for a simple process due to its complexity.
   2. Decision Trees: These are graphical representations of conditions, actions and rules found in a decision table. It is a useful way to present a system to management because a graphic is often the most effective way to communicate. A decision tree is a good way to describe a relatively simple process, but would not work as well if having to deal with a complex set of conditions.
2. **What is structured English?**

* Structured English is a subset of Standard English that describes logical processes clearly and accurately. When using structured English, you must conform to a few simple rules. Only three building blocks of sequence, selection, and iteration are used. Indentation is used for readability. Finally, a limited vocabulary is used. This would include standard terms from the data dictionary and specific words that describe the processing rules.

**Chapter 5b - Personal Trainer, INC**

1. **Write a brief memo that explains the importance of leveling a set of DFDs.**

* Leveling a set of DFDs is important because it starts at the highest level and allows you to drill down further and further into the system until all processes are represented in their most basic processing functions. As the system is broken down further, the analyst is able to see how everything is supposed to work at each step of the process. It also ensures that every minute detail is considered and being designed for within the system.

1. **Write a brief memo that explains the importance of balancing a set of DFDs.**

* Balancing a set of DFDs is important because it ensures that all input and output data flows are being maintained throughout the process. It is important to ensure that as the DFD is exploded down, the data flows to and from the different processes remains constant. This helps the analysts to ensure that the system integrity is maintained throughout the entire process.

D3

INSTRUCTOR

ACTIVITY

**Chapter 5b - Case in Point 5.2 & 5.3: Rock Solid Outfitters**

**5.2 Rock Solid Outfitters (Part 1)**

* Decision table for Web-based promotion.

1 2 3 4 5 6

X

Does not qualify

$10 merchandise credit for orders of $100 or more

Free Shipping

Spent $100 or more

Signed up for Online Newsletter

Complete Online Survey

X

X X X X

Y N Y Y Y N

Y Y N Y N N

Y Y Y N N N

Rock Solid Outfitters

Web-based Promotion

**5.3 Rock Solid Outfitters (Part 2)**

* Decision tree for Web-based promotion.

Y

Free Shipping & $10 merchandise credit

No Reward

Free Shipping

Y

Signed up for Online Newsletter

Completed Online Survey

Free Shipping

Spent $100

N

Y

N

N

In conclusion, a decision tree is a good choice when working on a simple process or system presenting to management. Because a decision tree provides graphic components, in many situations; it seems to be one of the most effective means of communication. A decision table is preferable when working with a more complex set of conditions. Many analysts use decision tables because they are easy to construct and understand, and programmers find it easy to work from a decision table when developing code.