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**Data Structures and Algorithms II**

**Project 4**

**User's Manual**

**Setup and Compilation**

1. Download and unzip the submission from eLearning on a Linux box in the multi-platform lab.
2. The submission includes:
   * main.cpp
   * Simulation.cpp
   * Simulation.hpp
   * UsersManual.docx (this file)
   * UMLDiagram.pdf
   * Makefile
3. Environment: This program has been tested on the SSH server and will run there.
4. Compiling. This program includes a Makefile. At the command line in Linux, type make. The program produces an executable entitled main. In order to remove the executable as well as all the object files type make clean.

**Running the program**. Issue the command ./main. No command line arguments are required or checked.

User input: The program does not require user input of any kind.

**Output:** All output goes to the console. Output will be similar to this:

Simulation: 1

Number of batches of items: 200

Number of items in each batch: 1000

Percentage of batches containing bad items: 25

Percentage of items that are bad in a bad set: 15

Items sampled from each set: 50

Generating data sets:

Create bad set batch #0 totalbad = 146 total = 200 pct 15

Create bad set batch #1 totalbad = 149 total = 200 pct 15

Create bad set batch #2 totalbad = 124 total = 200 pct 15

Create bad set batch #3 totalbad = 136 total = 200 pct 15

Create bad set batch #4 totalbad = 140 total = 200 pct 15

Create bad set batch #5 totalbad = 137 total = 200 pct 15

Create bad set batch #6 totalbad = 143 total = 200 pct 15

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Analyzing data sets...

batch #0 is bad

batch #1 is bad

batch #2 is bad

batch #3 is bad

batch #4 is bad

batch #5 is bad

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Base = 0.85 exponent = 50

P(failure to detect bad batch) = 0.000295765 %

Percentage of bad batches actually detected = 100 %