# Data Breach Exercise

Imagine a large company that uses a deeply entrenched and ancient mainframe computer to collect new customer data. The mainframe is impossible to secure properly due to technology constraints. To mitigate the damage from a potential data breach, every weekend they run a large migration job that clears all of the data off of the mainframe and moves it onto a more secure server.

During any given week they are concerned that an insider might copy all of the customer data off of the mainframe and sell it on the black market. Although they cannot technically prevent this, they do deter it by posting public notices that the log files are regularly audited. Going forward they have decided to allocate 100 man hours per week to the task of auditing the mainframe’s daily logs.

The company collects about the same amount of customer data each day; therefore, the database grows linearly throughout the week. The database starts fresh every Monday morning because of the weekend migration job. For simplicity, assume that the number of hours allocated to inspecting a particular day’s logs equals the likelihood of detecting an attack on that day. For example, if *x* hours are assigned to a day’s logs, and an insider attacks on that day, then the chance of detecting the insider is *x* percent. Also assume that if the insider is detected, the threat will be eliminated resulting in a “reward” equal to 10 points for the company.

They have hired you as a cybersecurity consultant because they need help. Your job is to allocate the 100 man hours over the 5 log files. Fill in the table below with *integers* in the range [0, 100] and make sure they sum to 100.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Daily Log Files** | **Mon** | **Tue** | **Wed** | **Thu** | **Fri** |
| **Value of Database** | **1** | **2** | **3** | **4** | **5** |
| **Log Auditing Hours  (must sum to 100)** |  |  |  |  |  |

The company that hired you wants to know how you came up with this particular allocation of hours. *Briefly* describe what you would tell them: