**961701 (001)**

**Everything Starts with Data**

**Pre-test (30 points)**

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**1.** For one of your data sciences courses, you have scored 88, 74, and 95 on three of her tests so far. What is the minimum score you need to receive on your 4th test in order to have an average of 90? Please demonstrate your method to obtain your fourth test score in detail

* (88 + 74 + 95 + x) (4) / 4 = 90 (4)
* (88 + 74 + 95 + x) = 360
* 257 + x = 360
* X = 103

**2.** Given the table below, write any programming language you preferred or pseudo code to find the total value of all cells

|  |  |  |  |
| --- | --- | --- | --- |
| a[0][0] = 23 | a[0][1] = 42 | a[0][2] = 5 | a[0][3] = 11 |
| a[1][0] = 52 | a[1][1] = 23 | a[1][2] = -2 | a[1][3] = 8 |
| a[2][0] = 0 | a[2][1] = 10 | a[2][2] = 11 | a[2][3] =55 |

* sum(a[0][0],a[1][0],a[2][0],a[0][1],a[1][1],a[2][1],a[0][2],a[1][2],a[2][2],a[0][3],a[1][3],a[2][3])

**3.** What is the different between data structure, database, and data warehouse, please explain in your own words?

- Data structure

Process or method how to design a "Database".

- Database

Physical where to store a data.

- Data warehouse

**4.** (**Extra credit 5** points) Have you ever experience of completed a project that need to analyze the data? If so, please describe the project problem, type of data source, scope of the project, and method and tools.

Project (simple project) problem is a about travel expenses of employees. It is a excel not a large amount of data. Fist I am cleansing a data by using Excel.

Ex. like a sorting thing and manage hand by hand. Second summarize how much of travel, how many times they travel to data visualization histogram, pie chart.