**Practice logistic regression.**

There are two possible outcomes: **Admitted** (represented by the value of ‘1’) vs. **Rejected** (represented by the value of ‘0’).

You can then build a logistic regression in Python, where:

* The dependent variable represents whether a person gets admitted; and
* The 3 independent variables are the GMAT score, GPA and Years of work experience

This is how the dataset would look like:

|  |  |  |  |
| --- | --- | --- | --- |
| gmat | gpa | Work\_experience | admitted |
| 780 | 4 | 3 | 1 |
| 750 | 3.9 | 4 | 1 |
| 690 | 3.3 | 3 | 1 |
| 710 | 3.7 | 5 | 1 |
| 680 | 3.9 | 4 | 1 |
| 730 | 3.7 | 6 | 1 |
| 690 | 2.3 | 1 | 1 |
| 720 | 3.3 | 4 | 0 |
| 740 | 3.3 | 5 | 1 |
| 690 | 1.7 | 1 | 1 |
| 610 | 2.7 | 3 | 0 |
| 690 | 3.7 | 5 | 0 |
| 710 | 3.7 | 6 | 1 |
| 680 | 3.3 | 4 | 1 |
| 770 | 3.3 | 3 | 1 |
| 610 | 3 | 1 | 1 |
| 580 | 2.7 | 4 | 0 |
| 650 | 3.7 | 6 | 1 |
| 540 | 2.7 | 2 | 1 |
| 590 | 2.3 | 3 | 0 |
| 620 | 3.3 | 2 | 0 |
| 600 | 3 | 1 | 1 |
| 550 | 2.7 | 4 | 1 |
| 550 | 2.5 | 1 | 1 |
| 570 | 2.6 | 2 | 0 |
| 670 | 3.5 | 6 | 1 |
| 660 | 4 | 42 | 1 |
| 640 | 3.3 | 6 | 1 |
| 620 | 3.3 | 5 | 1 |
| 660 | 2.3 | 1 | 0 |
| 660 | 2.7 | 2 | 1 |
| 680 | 3.3 | 1 | 1 |
| 650 | 1.7 | 4 | 0 |
| 670 | 3.7 | 5 | 1 |
| 580 | 1.5 | 6 | 1 |
| 590 | 2.5 | 4 | 0 |
| 690 | 3.4 | 3 | 0 |
| 550 | 4 | 2 | 0 |
| 200 | 1.3 | 6 | 1 |
| 580 | 2.5 | 6 | 1 |
| 680 | 3 | 2 | 0 |
| 695 | 4 | 3 | 0 |
| 540 | 2.4 | 1 | 0 |
| 500 | 1.9 | 2 | 0 |
| 600 | 2.8 | 5 | 1 |
| 700 | 4 | 6 | 1 |
| 620 | 3.3 | 4 | 1 |
| 530 | 4 | 3 | 0 |
| 690 | 3.7 | 1 | 0 |
| 720 | 3.9 | 5 | 1 |
| 780 | 4 | 2 | 1 |
| 690 | 2.4 | 3 | 0 |

**Checking the Prediction for a New Set of Data**

Let’s say that you have a new set of data, with 5 new candidates:

|  |  |  |
| --- | --- | --- |
| **gmat** | **gpa** | **work\_experience** |
| 590 | 2 | 3 |
| 740 | 3.7 | 4 |
| 680 | 3.3 | 6 |
| 610 | 2.3 | 1 |
| 710 | 3 | 5 |

Your goal is to use the existing logistic regression model to predict whether the new candidates will get admitted.

**Submission**

Please, submit your program, graph and your prediction’s result until next practice (24.09.2019 deadline)