Deliverable:

1. The code for Part A & B are in zip file.
2. My answers:
   1. Link to Tableau Dashboard: <https://public.tableau.com/views/u3251397_ChamroeunsathyaBin/Combine?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link>
   2. The results of the (regression and classification) trained models on the test data.

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| --- | --- | --- |
| **Model** | **R2** | **MSE** |
| Linear Regression (Model 1) | 0.8471694059655929 | 0.029181937501919004 |
| Gradient Descent (Model 2) | 0.7682581858137427 | 0.04424948539192481 |
| Decision Tree (Other Model 1) | 0.6992392473652012 | 0.0574281709880869 |
| Random Forest (Other Model 2) | 0.8460674355061036 | 0.02939235108619479 |

* Linear Regression (Model 1):
  + R2: 84.71%
  + MSE: 0.029
* Gradient Descent (Model 2):
  + R2: 76.82%
  + MSE: 0.044
* Decision Tree (Other Model 1):
  + R2: 69.92%
  + MSE: 0.057
* Random Forest (Other Model 2):
  + R2: 84.60%
  + MSE: 0.029

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| --- | --- | --- | --- | --- |
| **Model** | **Accuracy** | **Precision** | **Recall** | **F1-Score** |
| Logistic Regression (Model 3) | 0.7861904761904762 | 0.80  0.78 | 0.71  0.85 | 0.75  0.81 |
| Neural Network (MLPClassifier)  (Other Model 3) | 0.6971428571428572 | 0.78  0.76 | 0.69  0.83 | 0.73  0.80 |

* Logistic Regression:
  + Accuracy: 78.61%
  + Precision:
    - Class 1: 80%
    - Class 2: 78%
  + Recall:
    - Class 1: 80%
    - Class 2: 78%
  + F1-Score:
    - Class 1: 75%
    - Class 2: 81%
* Neural Network:
  + Accuracy: 69.71%
  + Precision:
    - Class 1: 78%
    - Class 2: 76%
  + Recall:
    - Class 1: 69%
    - Class 2: 83%
  + F1-Score:
    - Class 1: 73%
    - Class 2: 80%
  1. The list of commands to deploy my code to the GitHub repository.
  2. The list of commands I have used to create and push the Docker image to the Docker Hub.
  3. The Link of the source code I have deployed on GitHub (please add me as a collaborator; my GitHub account is [radwanebrahim@gmail.com](mailto:radwanebrahim@gmail.com))
  4. The link to the Docker image I deployed on the Docker Hub.