**Name :Karishma Borse**

**Topic : KNN Classification**

**Section 1: Solve 7.2**

**Question a:**

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AS displayed in the highlighted area the as per the Y predictions the customer will not take a loan.

Since the y\_Prediction value is 0.

**Question b:**

I tried to use different values of K. When K= 1 accuracy = 96.25 %

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When the K= 14 , accuracy = 95.58 %

Which is less than k=1.

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When k=20 accuracy decreases upto 93.95 %A screenshot of a cell phone

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Hence for the higest accuracy K=1, K=3 gives optimum solution.

**Question c:**

Confusion Matrix using the best k.

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**Question d:**

The best values of prediction for the customer is k=5 with accuracy rate = 95.95 %.

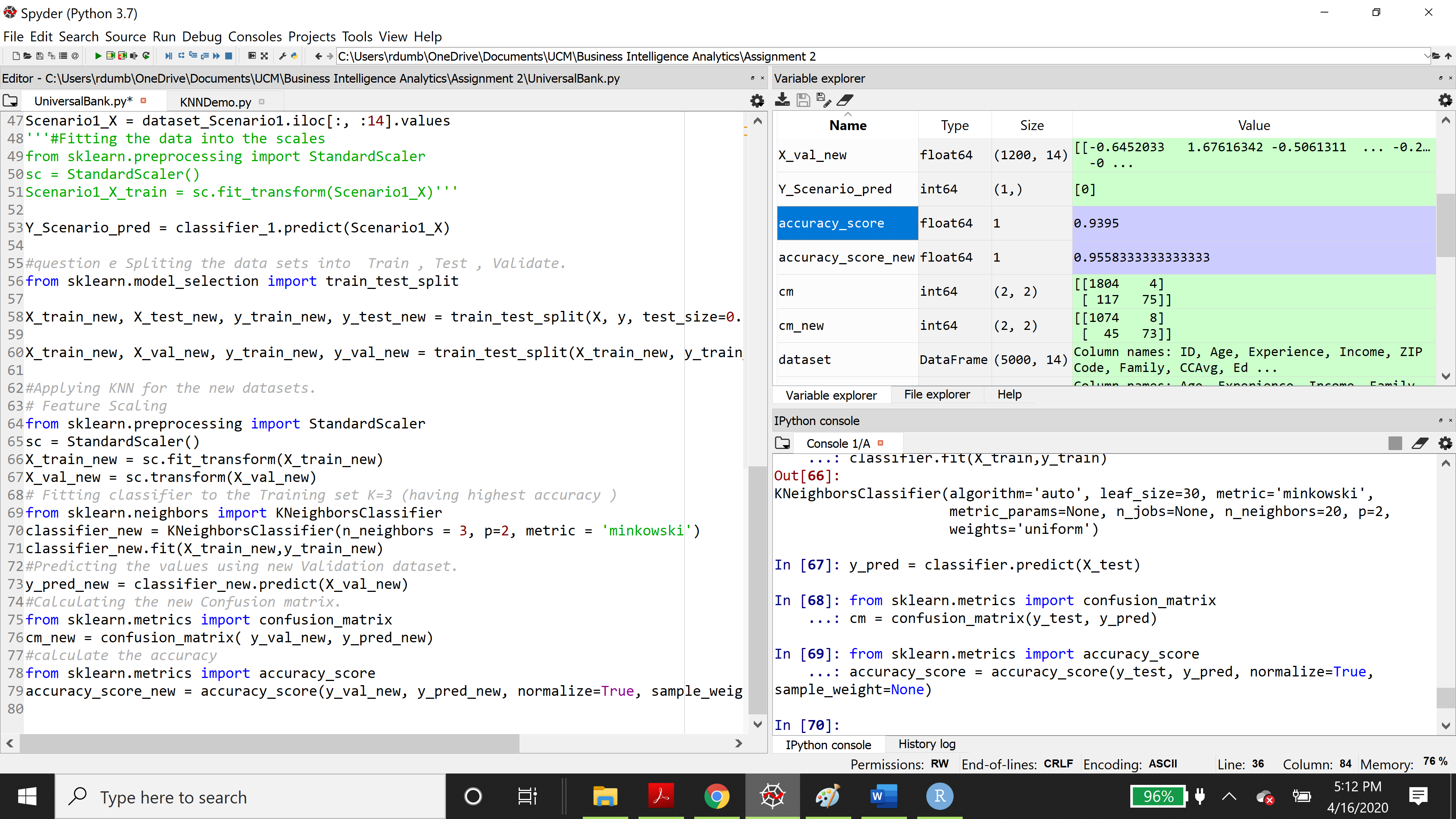
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**Question e:**

When the data set is splitted into 3 sets – Training set , Validation set and Test set . Using Trainig dataset the “Classifier\_new “ object is trained, using that object, values are predicted. New confusion matrix is created named as cm\_new. This data set is using K=3, since this value of K gives the highest accuracy. Accuracy for this model is 95.58 %.



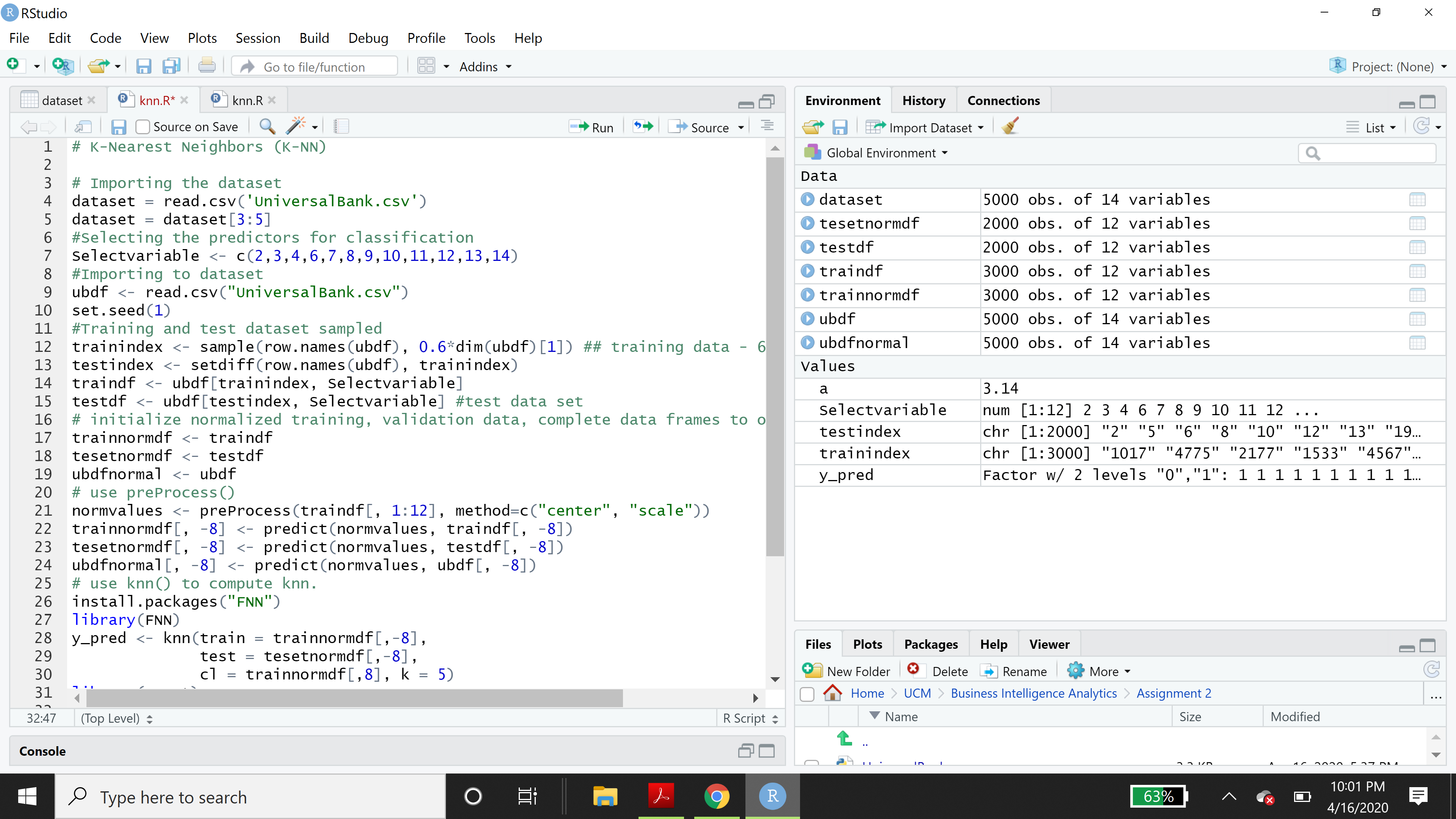


The confusion matrix for this dataset is as follows

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**Prediction Code in R:**



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**Section 2: Templates**

**Python Template:**

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**R Template:**

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