Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 1 (2 points)

Playtime is the average time (in min) that a board game is played for. It is reasonable to expect the duration of the game to affect its rating. Examine this relationship by constructing a regression tree with `playtime` as predictor and `rating` as outcome. Inspect a plot of the regression tree.

Based on the results, what is the predicted `rating` of a game that has a `playtime` of 2 hours (i.e., 120 min)? If needed, round your answer to one decimal place before selecting an alternative.

- 6.3
- 6.1
- 6.6
- 6.9

Get Help

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 2 (2 points)

A couple of games are categorized as being party games ("Party.Game"). Use a regression tree to examine the results of a game being categorized as a `Party.Game` on its `rating`. Inspect a plot of the regression tree. With categorical variables, interpreting the plot of the tree can be confusing. Setting argument type=4 in rpart.plot() makes the chart easier to read. Specifically, for a regression tree object called tree, the function would be: rpart.plot(tree, type = 4).

Based on the results, what is the predicted `rating` of a game categorized as being a `Party.Game`. If needed, round your answer to one decimal place before selecting an alternative.

- ◯ 6
- ◯ 6.6
- ◯ 6.3
- ◯ 6.4

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 3 (2 points)

Let us now examine how rating is affected by the following game characteristics: max_players, playtime, min_age, age_of_game. Construct a regression tree and inspect the plot. Call the model object, tree3. Use defaults for `rpart()`. Which of the following variables influence rating? Select one or more correct answers.

- [ ] playtime
- [ ] max_players
- [ ] min_age
- [ ] min_players
- [ ] age_of_game

Question 4 (3 points)

Get Help

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 4 (3 points)

Based on `tree3` constructed in the previous question, which feature is the strongest predictor of rating?

- playtime
- age_of_game
- min_players
- max_players
- min_age

Question 5 (3 points)

Based on `tree3`, what is the predicted rating for a board game that is 10 years old, has an average playtime of 60 min, has a recommended minimum age for playing of

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 5 (3 points)

Based on `tree3`, what is the predicted rating for a board game that is 10 years old, has an average playtime of 60 min, has a recommended minimum age for playing of 12 years, minimum players to play is 4 and maximum players is 8? If needed, round your answer to one decimal place before selecting an alternative.

- ◯ 6.3
- ◯ 5.8
- ◯ 6.1
- ◯ 6.8
- ◯ 7.2

Question 6 (3 points)

Let us examine the predictive accuracy of `tree3`. What is the root mean squared

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 6 (3 points)

Let us examine the predictive accuracy of `tree3`. What is the root mean squared error (RMSE) of `tree3`?

Question 7 (3 points)

A board game can belong to more than one category. For instance, a board game can be a War game and at the same time involve Adventure or Abstract Strategy. Construct a regression tree to examine the influence of the top 20 categories for board games on their rating. The categories are: CardGame, Wargame, Fantasy, Fighting, Economic, Science.Fiction, Dice, Party.Game, AbstractStrategy, Childrens.Game, WorldWarII, Bluffing, Humor, Animals, Adventure, Medieval, Action.Dexterity, Deduction, Movies.TV.Radiotheme, Miniatures. Call the model object, `tree4`. Which of the following category variables influence rating? Select one or more correct answers

Get

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

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- [ ] Movies.TV.Radiotheme
- [ ] CardGame
- [ ] Childrens.Game
- [ ] Miniatures
- [ ] Wargame
- [ ] Fantasy

Question 8 (3 points)

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 8 (3 points)

Based on `tree4` constructed in the previous question, which feature is the strongest predictor of rating?

- ◯ CardGame
- ◯ Movies.TV.Radiotheme
- ◯ Wargame
- ◯ Childrens.Game
- ◯ Miniatures
- ◯ Fantasy

Question 9 (3 points)

Based on `tree4`, what is the predicted rating for a board game that belongs to the

Get Help

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

Question 9 (3 points)

Based on `tree4`, what is the predicted rating for a board game that belongs to the following categories: Wargame, Fantasy, Fighting, Adventure and Medieval? If needed, round your answer to one decimal place before selecting an alternative. With categorical variables, interpreting the plot of the tree can be confusing. Setting argument type=4 in rpart.plot() makes the chart easier to interpret. Specifically, for a regression tree object called tree, the function would be: rpart.plot(tree, type = 4).

- 6.3
- 5.8
- 5.7
- 6.8
- 7

Get Help

Assignment 7b

Mithilesh Josyabhatla: Attempt 1

Page 1:

1 --	2 --	3 --
4 --	5 --	6 --
7 --	8 --	9 --
10 --		

- ◯ 5.7
- ◯ 6.8
- ◯ 7

Question 10 (3 points)

Let us examine the predictive accuracy of `tree4`. What is the RMSE of `tree4`?

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0 of 10 questions saved

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