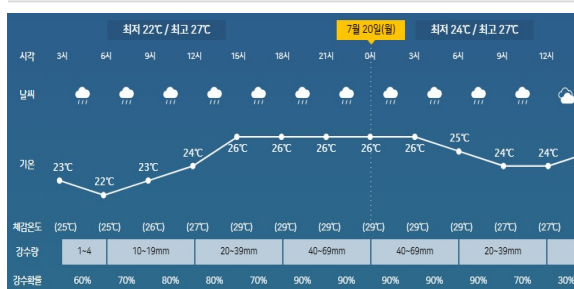


LOGISTIC REGRESSION

Binary Classification algorithm

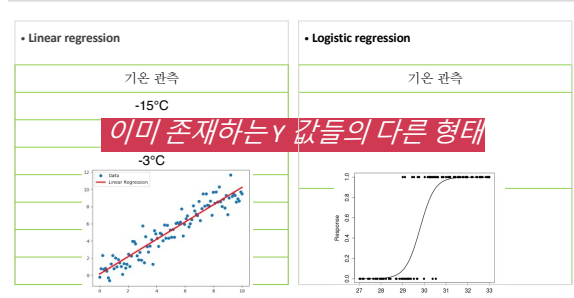
1

LOGISTIC REGRESSION



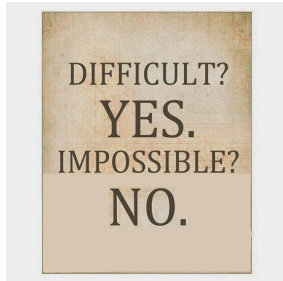
2

LOGISTIC REGRESSION



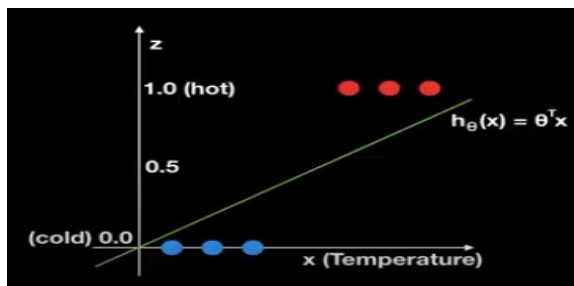
3

CLASSIFICATION BY LINEAR REGRESSION?



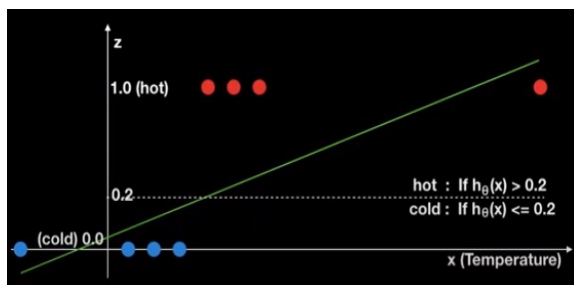
4

LOGISTIC REGRESSION

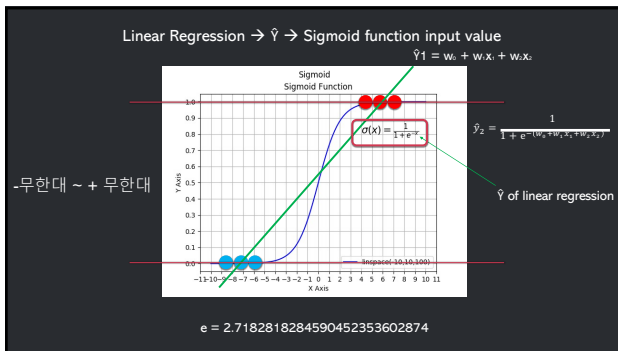


5

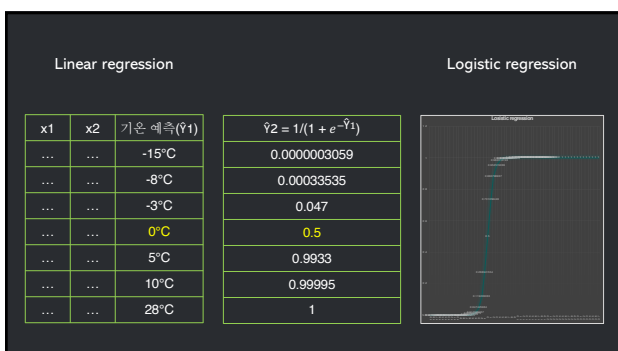
LOGISTIC REGRESSION



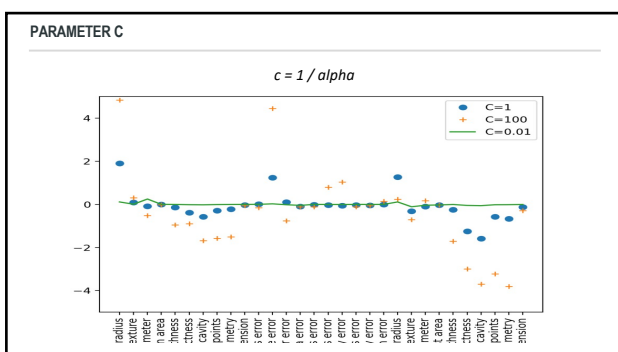
6



7



8



9

PARAMETER SOLVER

```

• solver('newton-cg', 'lbfgs', 'liblinear', 'sag', 'saga'), default='lbfgs'

• 'newton-cg' → L2, no penalty
• 'lbfgs'      → L2, no penalty
• 'sag'       → L2, no penalty, large datasets
• 'saga'      → L1, L2, elasticnet, no penalty, large datasets
• 'liblinear' → L1 penalty, small datasets

```

10

DECISION TREE

Korean Industrial Solution

11

실습: 의사결정나무 예시 [채무불이행자 분류]

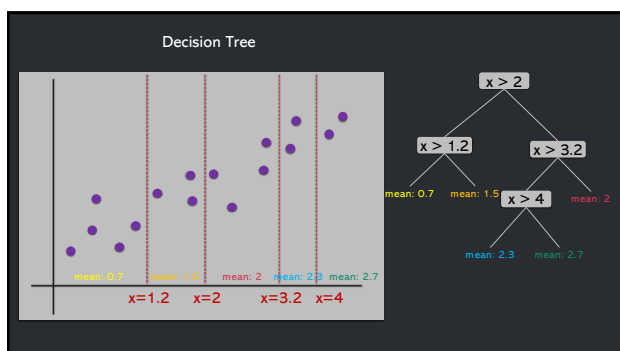
ID	집 소유	결혼	연소득(K)	채무불이행
1	Yes	미혼	125	No
2	No	기혼	100	No
3	No	미혼	70	No
4	Yes	기혼	120	No
5	No	이혼	95	Yes
6	No	기혼	60	No
7	Yes	이혼	220	No
8	No	미혼	85	Yes
9	No	기혼	75	No
10	No	미혼	90	Yes

12

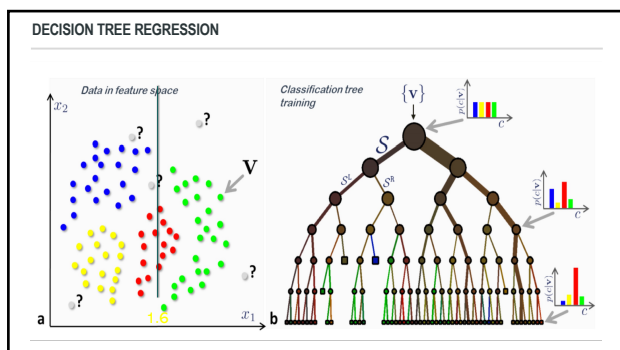
실습: 의사결정나무 예시 [채무불이행자 분류]

ID	집 소유	결혼	연소득(K)	신용도 점수
1	Yes	미혼	125	4.5
2	No	기혼	100	7.8
3	No	미혼	70	10.0
4	Yes	기혼	120	9.5
5	No	미혼	95	13
6	No	기혼	60	2.6
7	Yes	미혼	220	8.8
8	No	미혼	85	15.1
9	No	기혼	75	3.4
10	No	미혼	90	13.2

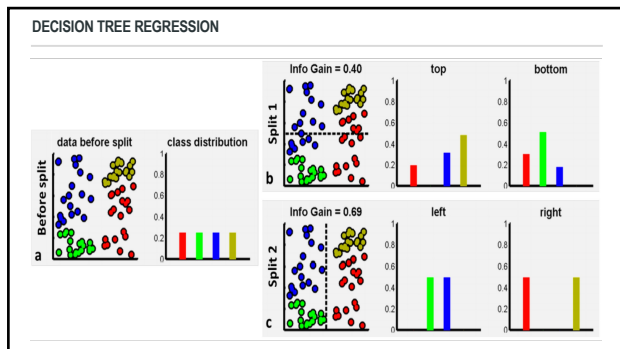
13



14



15

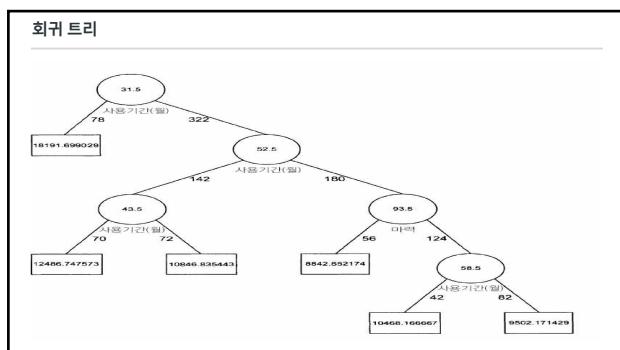


16

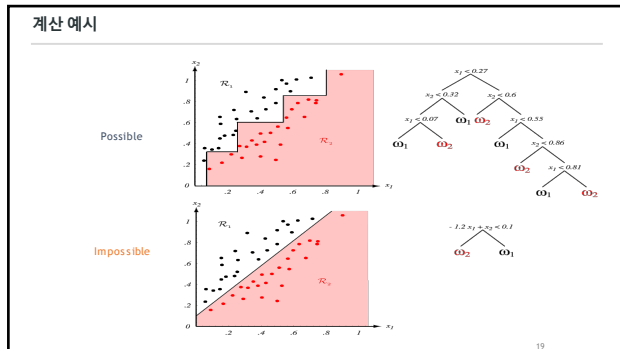
TREE ALGORITHM

Algorithms	Regressor	Classifier
Decision Tree	DecisionTreeRegressor	DecisionTreeClassifier
Gradient Boosting	GradientBoostingRegressor	GradientBoostingClassifier
XGBoost	XGBRegressor	XGBClassifier
LightGBM	LGBMRegressor	LGBMClassifier

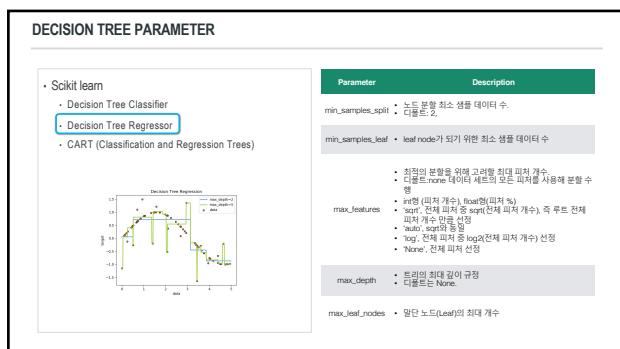
17



18



19



20
