	@1
	a) rupelf
And the latter and the street of the street	
didakan ani ini wasio na ang pa ulidan ninganakin tingan managa	b) I certify that all solutions are onlinely in my words and that
girli sila vida va Malaja nominospojnjem delika di er ilizaternom je nomina tregalnam izat	I have of looked at another student's solutions. I have credited all
<ul> <li>Schwerze geben, with further rating recently of riginia, contained apply</li> </ul>	external sources in this write up.
or make the section of the contract of the con	
anning general de ce sacreto de c <b>ens</b> era que e <sub>e</sub> su mante comunidad de celabrillo (combino del traves).	<b>Φ</b> 5
elledigen gide film et ermilde y pare de een een een een een een een een een	What is the main downfall of decision treet as how do
gegende figh easter kinger - ear gerig figh easterge fi sjil het de steep in sjil het de stee	roudom horests sulve that?
	OVERFITTING. Maring
	that can be seen in the l'accuracy results of a sigle decision here is its validation accuracy
	decision tree to 145 validation accuracy
aura aannas up relatiousanassi up patriorai redpitrio olimbino entre e	
etrafiskyrither traggerien i vivinia etrafitation fra denomination	
ndan ar whatever are a second in sylved a second his day has been as a second	
Property Proc Contraction of the	
And the second of the second o	
gagangan ting Milippoliphon annanko us ti untur oligisi-do-nome asprontes	
a graduntus (inis ur surection men gilo) ((min) (m) ((m) manas quit <b>usse su</b>	
\$40 cm per la la Sible III una solicula nautrasa	

so on a collection and analysis and place and a superconnection some of the source of

$$T_{\lambda}(\omega) = \frac{1}{2} \|y\|^2 + \frac{\Omega}{2} \|\omega\|_2^2 + \lambda \|\omega\|_1 - y^T X \omega$$

Since the together
$$\frac{\partial}{\partial w} \left( \mathcal{T} \left\{ w \right\} \right) = n w + \frac{\partial}{\partial w} \|w\|_{1} - \left( X^{T} Y \right) = 0$$

$$= n w + sigh(w) - x^{T} Y = 0$$

$$w = \frac{1}{n} \left[ X^{T} Y - sign(w)(\lambda) \right]$$

Solve for w. Seprener

$$\frac{2}{2\omega_r} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \left[ \frac{1}{2} w_i^2 - (y + \chi_i) w_i + \chi_i + \chi_i \right]$$

$$= n w_i - y + \chi_i + \chi_i$$

60 - Jun

b) 
$$\hat{x}_i = \frac{1}{n} \left[ \frac{1}{n} \left[ \frac{1}{n} \frac{1}{n} \frac{1}{n} + \frac{1}{n} \frac{1}{n} \right] = \frac{1}{n} \frac{1$$

e) 
$$\hat{G} = (XTX + \lambda I)^{-1} X^{T}y$$
  
 $\hat{w}_{i} = (XTY_{i})^{-1} X^{T}y_{i} = 0$  for  $\hat{w}_{i} = 0$ 

```
Q3
     Zi~ W(0,64) Pr(17/7t) < et/262
      Pr(17:17, 26 Nogd) (e = (26 Nogd) 2/262 - 4 12 log d
   J* (Pr (12i) 7/2 (logd)) ((J2)·d' = 1/32
cut of non <2 (logd)) ((J2)·d' = 1/32 P(MX|2i) >26 √logd)
e) w = (X^T X) X^T (y) = (X^T X) X^T (y^* + z) = w^* + (X^T X)' X z
                                 because (XX) X X (XXX) [
       wings = T(w) = Ts(w*+21) =
                                                             cdumns
     e = was (s) - w+ (assuming w+ is s-space)
4)
     Wax circ occurs when wippls) spredicts s-originally o entries in
    wo to have some value.
     max (whop(s) - W) → + will give 8-wongly prodicted non-zero
                              2- negative S entrict of original
                                 weights
  hax(Sprsny(e))= 2s
    Gluan max 7:1 & 26/10gd
     Who (s) = 7 (wf, +2i) )
              Ts(w++2i) -) - w+ ( | Ts(w+7i) if i

W+ +7i - w+ ( | will + zil is hps

Zi or -wix
   Consider mux entry
        e = Ts(w++21).)
```

hure 2 leil<sup>2</sup> \ \( \left( \reft( \left( \left( \left( \left( \left( \left( \left( \left( \teft( \left( \reft( \left( \reft( \re

G. Given that from (d) => Prinot E) < 1/2 1> Pr(8) 5,1-1/2

11 XVII = 11VII' since X has orthormal columns Mi = 1 + Ai in Spec (X)

-11X (wapes) - w) 1 & 1 32 625 los & WM ROV [1-1/8)

When Eprosity comes into play (j)

(4/12/13) (326309d conputed 1/12/11 (62 d whe Pr (1-18) & high probability

> => ! Keiops 112 < - /11 Kewis 112 32/25/05 d & \$2 d

(12) The variance would only be 62 because that's the variance of the noise ture is a factor of 325 log of that we pay for not knowing which features to use.

Missing missing formies:

the later are filled with the mode of the data four

Not Numerical Values

If the string is Common chough, he make a one-hot-feeling

column for 12.

thosing Class label.

Remove it.

exclametron (0.5 for all

Titanic:

money < 10.5

Sex < 05

class

Short buch , ...

51614 KO.5

host Comon

Most commin

= money'

Sex

1) When x has very little counts of anyming meaning We don't have much informer on about X when W > 1e-15

When would is not spen it is easy to classify become they mostly only have characters and no keywords of the over above.

W (1e-35