Assignment 2

Report

Yubin He, Yani Xie

**Section 1**

**Section 2**

**Iris：k越大accurary越高**

**Income：k＝8，accuracy最高，0.8**

Confusion matrices:

K ＝ 3, Proximity = elud

Iris:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Predicted Class | | | |
| Actual Class |  | setosa | versicolor | virginica |
| Setosa | 20 | 0 | 0 |
| Versicolor | 0 | 17 | 13 |
| virginica | 0 | 0 | 20 |

Error rate =

Income:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predicted Class | | |
| Actual Class |  | >50K | <=50K |
| >50K | 26 | 41 |
| <=50K | 20 | 201 |

Error rate = 0.212

K ＝ 5, Proximity = elud

Iris:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Predicted Class | | | |
| Actual Class |  | setosa | versicolor | virginica |
| Setosa | 20 | 0 | 0 |
| Versicolor | 0 | 17 | 13 |
| virginica | 0 | 0 | 20 |

Error rate =

Income:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predicted Class | | |
| Actual Class |  | >50K | <=50K |
| >50K | 19 | 48 |
| <=50K | 13 | 208 |

Error rate = 0.212

K ＝ 7, Proximity = elud

Iris:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Predicted Class | | | |
| Actual Class |  | setosa | versicolor | virginica |
| Setosa | 20 | 0 | 0 |
| Versicolor | 0 | 18 | 12 |
| virginica | 0 | 0 | 20 |

Error rate =

Income:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predicted Class | | |
| Actual Class |  | >50K | <=50K |
| >50K | 17 | 50 |
| <=50K | 12 | 209 |

Error rate = 0.215

K ＝ 10, Proximity = elud

Iris:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Predicted Class | | | |
| Actual Class |  | setosa | versicolor | virginica |
| Setosa | 20 | 0 | 0 |
| Versicolor | 0 | 17 | 13 |
| virginica | 0 | 0 | 20 |

Error rate =

Income:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predicted Class | | |
| Actual Class |  | >50K | <=50K |
| >50K | 19 | 48 |
| <=50K | 13 | 208 |

Error rate = 0.212

K ＝ 15, Proximity = elud

Iris:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Predicted Class | | | |
| Actual Class |  | setosa | versicolor | virginica |
| Setosa | 20 | 0 | 0 |
| Versicolor | 0 | 16 | 14 |
| virginica | 0 | 0 | 20 |

Error rate =

Income:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predicted Class | | |
| Actual Class |  | >50K | <=50K |
| >50K | 11 | 56 |
| <=50K | 7 | 214 |

Error rate = 0.219

**Section 3**