## K-Nearest Neighbours(KNN) Classifier Report

Date: 17/12/2022

Time: 00:22:24

Authors: Khaled Ashraf, Noura Ashraf, Samaa Khalifa

## **Accuracy with different K**

k value: 1

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value : 2

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 3

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 4

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 5

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value : 6

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 7

Number of correctly classified instances: 412.0

Total number of instances : 412

Accuracy: 1.0

k value: 8

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 9

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 10

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 11

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 12

Number of correctly classified instances: 411.0

Total number of instances: 412 Accuracy: 0.9975728155339806

k value: 13

Number of correctly classified instances: 412.0

Total number of instances: 412

Accuracy: 1.0

k value: 14

Number of correctly classified instances: 411.0

Total number of instances: 412 Accuracy: 0.9975728155339806

k value: 15

Number of correctly classified instances: 411.0

Total number of instances: 412 Accuracy: 0.9975728155339806

k value: 16

Number of correctly classified instances: 410.0

Total number of instances: 412 Accuracy: 0.9951456310679612

k value: 17

Number of correctly classified instances: 410.0

Total number of instances: 412 Accuracy: 0.9951456310679612

k value : 18

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 19

Number of correctly classified instances: 408.0

Total number of instances: 412

Accuracy: 0.9902912621359223

k value: 20

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 21

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 22

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 23

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 24

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 25

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 26

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value : 27

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value : 28

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 29

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 30

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 31

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 32

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 33

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 34

Number of correctly classified instances: 408.0

Total number of instances : 412 Accuracy : 0.9902912621359223

k value: 35

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 36

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 37

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 38

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 39

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 40

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 41

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 42

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 43

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 44

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 45

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 46

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 47

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 48

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 49

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 50

Number of correctly classified instances: 407.0

Total number of instances: 412 Accuracy: 0.9878640776699029

k value: 51

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 52

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 53

Number of correctly classified instances: 408.0

Total number of instances: 412 Accuracy: 0.9902912621359223

k value: 54

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 55

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 56

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 57

Number of correctly classified instances: 405.0

Total number of instances: 412 Accuracy: 0.9830097087378641

k value: 58

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 59

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 60

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 61

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835 k value: 62

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 63

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 64

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 65

Number of correctly classified instances: 406.0

Total number of instances: 412 Accuracy: 0.9854368932038835

k value: 66

Number of correctly classified instances: 405.0

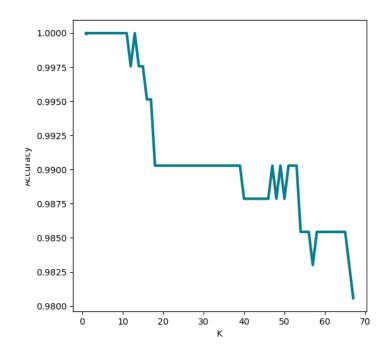
Total number of instances: 412 Accuracy: 0.9830097087378641

k value : 67

Number of correctly classified instances: 404.0

Total number of instances: 412 Accuracy: 0.9805825242718447

## **Plotting Accuracy**



## **Table for each K with its Accuracy**

K	Accuracy
1	1.0
2	1.0
3	1.0
4	1.0
5	1.0
6	1.0
7	1.0
8	1.0
9	1.0
10	1.0
11	1.0
12	0.9975728155339806
13	1.0
14	0.9975728155339806
15	0.9975728155339806
16	0.9951456310679612
17	0.9951456310679612
18	0.9902912621359223
19	0.9902912621359223
20	0.9902912621359223
21	0.9902912621359223
22	0.9902912621359223
23	0.9902912621359223
24	0.9902912621359223
25	0.9902912621359223
26	0.9902912621359223
27	0.9902912621359223
28	0.9902912621359223
29	0.9902912621359223
30	0.9902912621359223

31	0.9902912621359223
32	0.9902912621359223
33	0.9902912621359223
34	0.9902912621359223
35	0.9902912621359223
36	0.9902912621359223
37	0.9902912621359223
38	0.9902912621359223
39	0.9902912621359223
40	0.9878640776699029
41	0.9878640776699029
42	0.9878640776699029
43	0.9878640776699029
44	0.9878640776699029
45	0.9878640776699029
46	0.9878640776699029
47	0.9902912621359223
48	0.9878640776699029
49	0.9902912621359223
50	0.9878640776699029
51	0.9902912621359223
52	0.9902912621359223
53	0.9902912621359223
54	0.9854368932038835
55	0.9854368932038835
56	0.9854368932038835
57	0.9830097087378641
58	0.9854368932038835
59	0.9854368932038835
60	0.9854368932038835
61	0.9854368932038835
62	0.9854368932038835
63	0.9854368932038835
	,

64	0.9854368932038835
65	0.9854368932038835
66	0.9830097087378641
67	0.9805825242718447