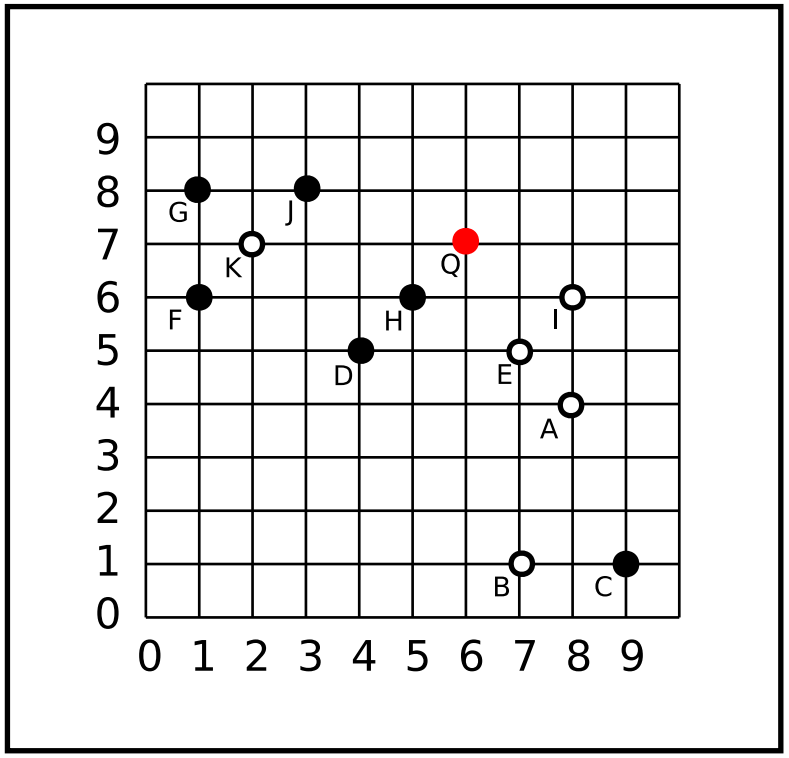
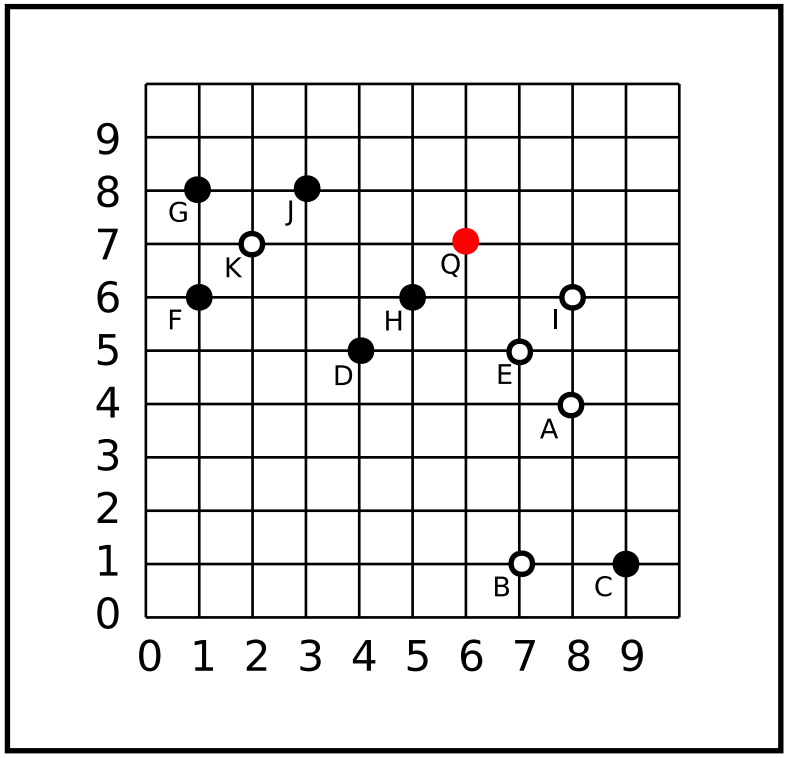
kNN on the initial training set (TS)



- K=1, Q is black: nearest neighbor H is black
- K=3, Q is white: two neighbors are white (E and I), and one is black (H)

Applying ENN



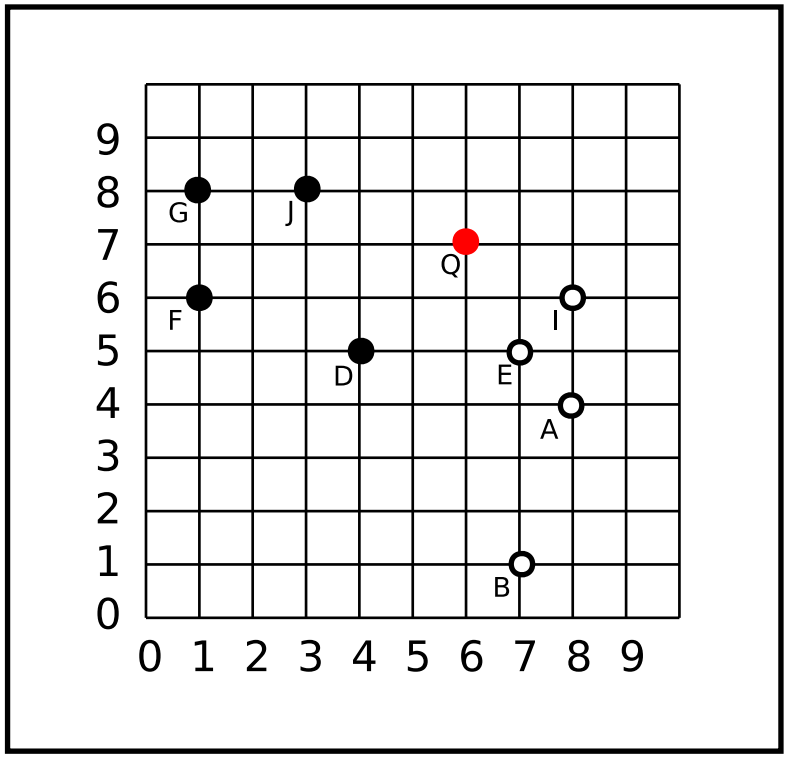
Applying ENN with k=3

initialize ES = {ABCDEFGHIJK}

examine points (any order)

point	3nn	new ES
A	EIB	{ABCDEFGHIJK}
B	CAE	{ABCDEFGHIJK}
C	BAE	{ABDEFGHIJK}
D	HEF	{ABDEFGHIJK}
E	IAD	{ABDEFGHIJK}
F	GKD	{ABDEFGHIJK}
G	FKJ	{ABDEFGHIJK}
H	DIE	{ABDEFGIJK}
I	EAH	{ABDEFGIJK}
J	KGD	{ABDEFGIJK}
K	FGJ	{ABDEFGIJ}

kNN on the edited set (ES)



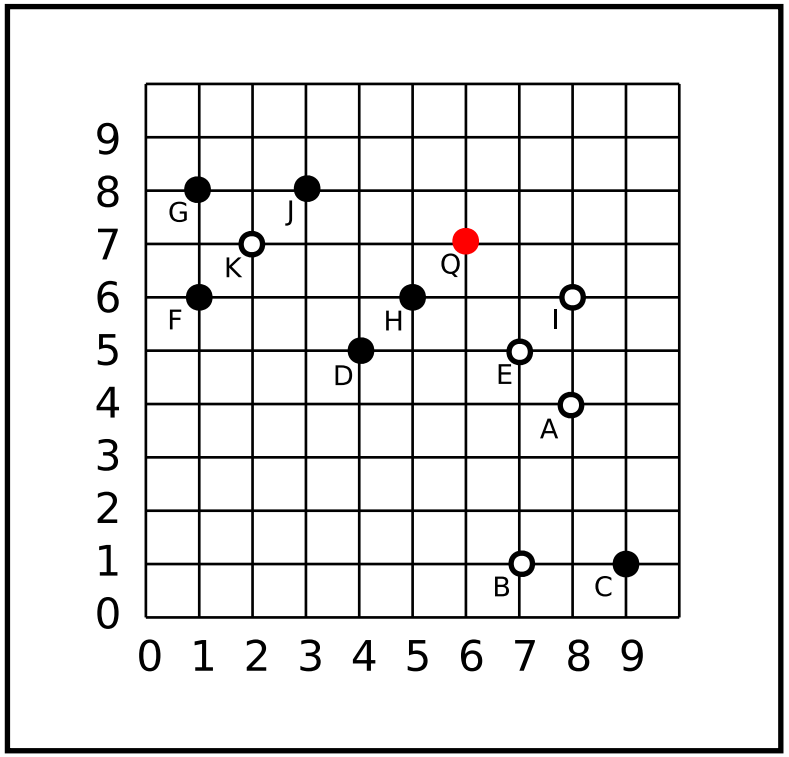
ES = {ABDEFGIJ}

Hence, CHK are removed

k=1, Q is white: nearest neighbor E is white

k=3, Q is white: two neighbors are white (E and I) and one is black (D)

Applying CNN



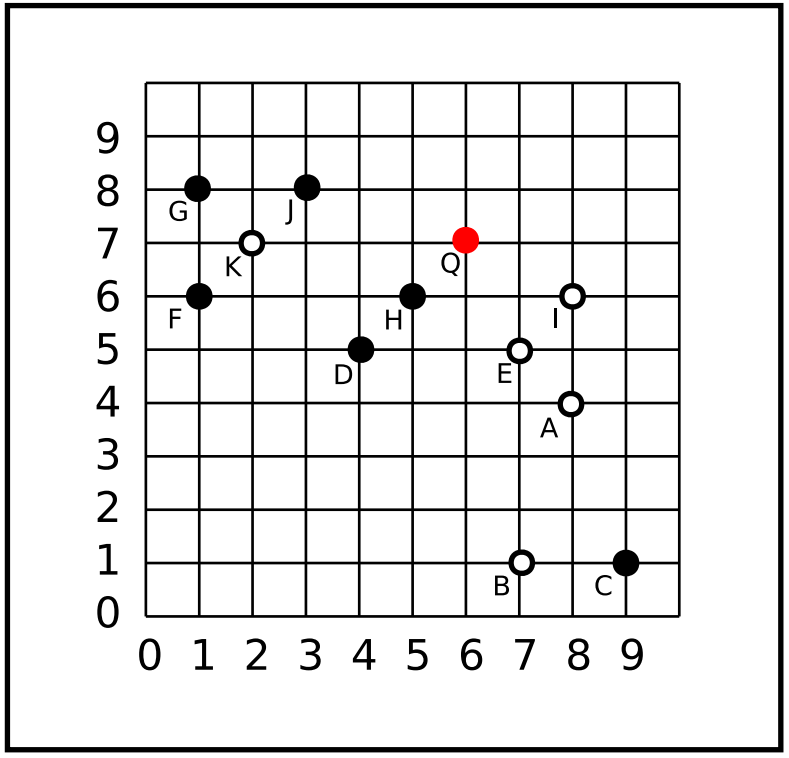
CS = {}

initialize CS = {A} TS = {BCDEFGHIJK}

1st pass

point	1NN	new CS	new TS
B	A	{A}	{BCDEFGHIJK}
C	A	{AC}	{BDEFGHIJK}
D	A	{ACD}	{BEFGHIJK}
E	A	{ACD}	{BEFGHIJK}
F	D	{ACD}	{BEFGHIJK}
G	D	{ACD}	{BEFGHIJK}
H	D	{ACD}	{BEFGHIJK}
I	A	{ACD}	{BEFGHIJK}
J	D	{ACD}	{BEFGHIJK}
K	D	{ACDK}	{BEFGHIJ}

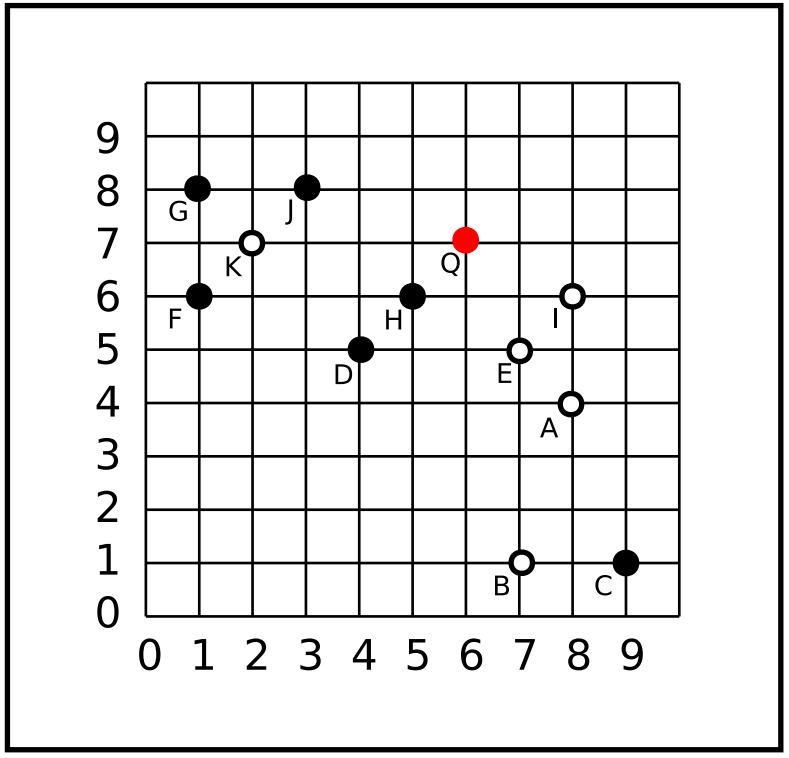
Applying CNN



2nd pass

point	1NN	new CS	new TS
B	C	{ABCDK}	{EFGHIJ}
E	A	{ABCDK}	{EFGHIJ}
F	K	{ABCDFK}	{EGHIJ}
G	F	{ABCDFK}	{EGHIJ}
H	D	{ABCDFK}	{EGHIJ}
I	A	{ABCDFK}	{EGHIJ}
J	K	{ABCDFJK}	{EGHI}

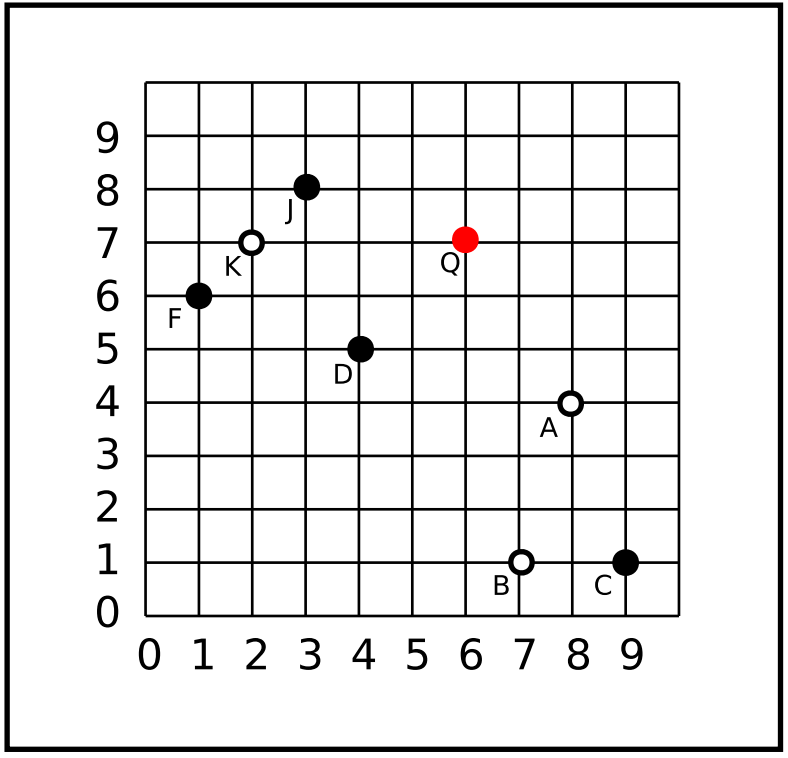
Applying CNN



3rd pass

point	1NN	new CS	new TS
E	A	{ABCDFJK}	{EGHI}
G	F	{ABCDFJK}	{EGHI}
H	D	{ABCDFJK}	{EGHI}
I	A	{ABCDFJK}	{EGHI}

kNN on the condensed set (CS)



CS = {ABCDFJK}

Hence, EGHI are removed

k=1, Q is black: nearest neighbor D is black

k=3, Q is black: two neighbors are black (D and J) and one is white (K)