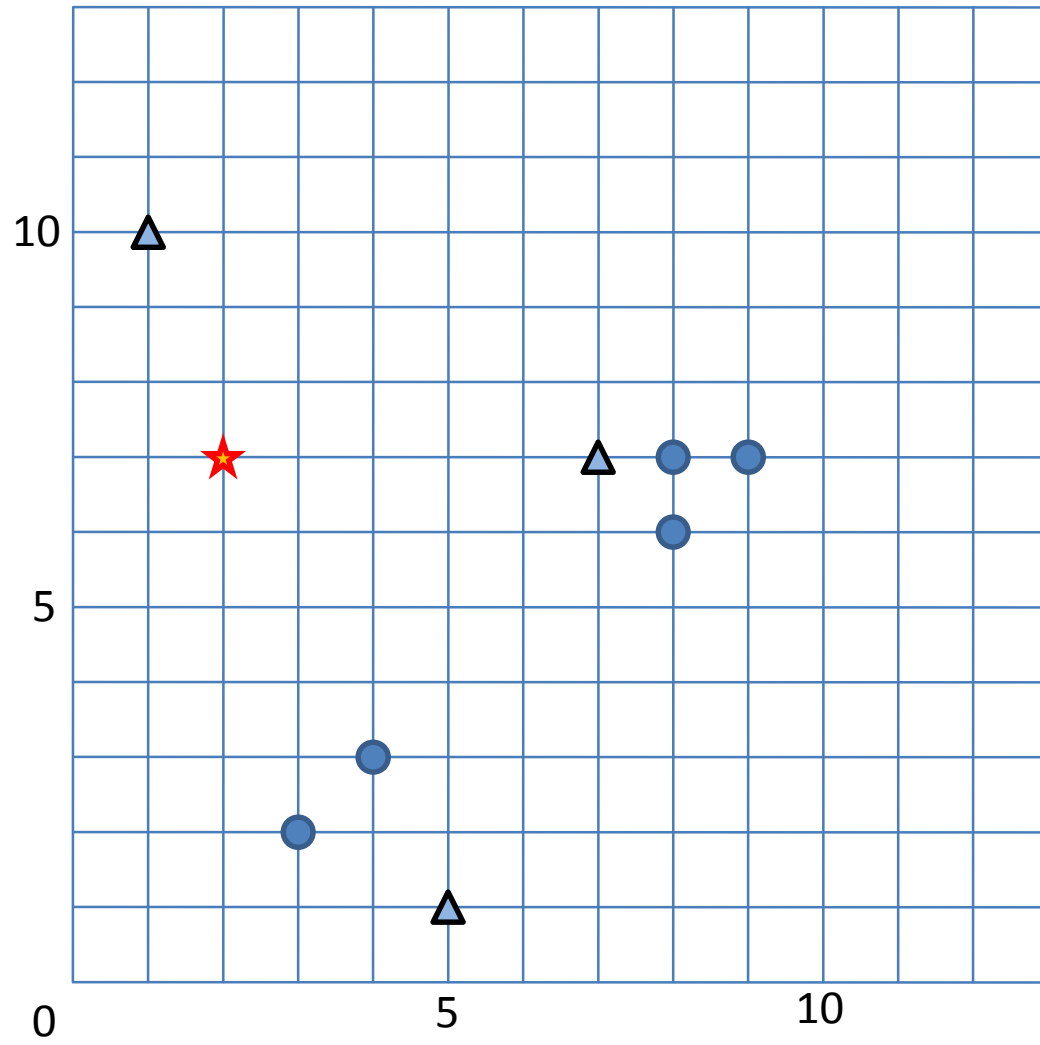
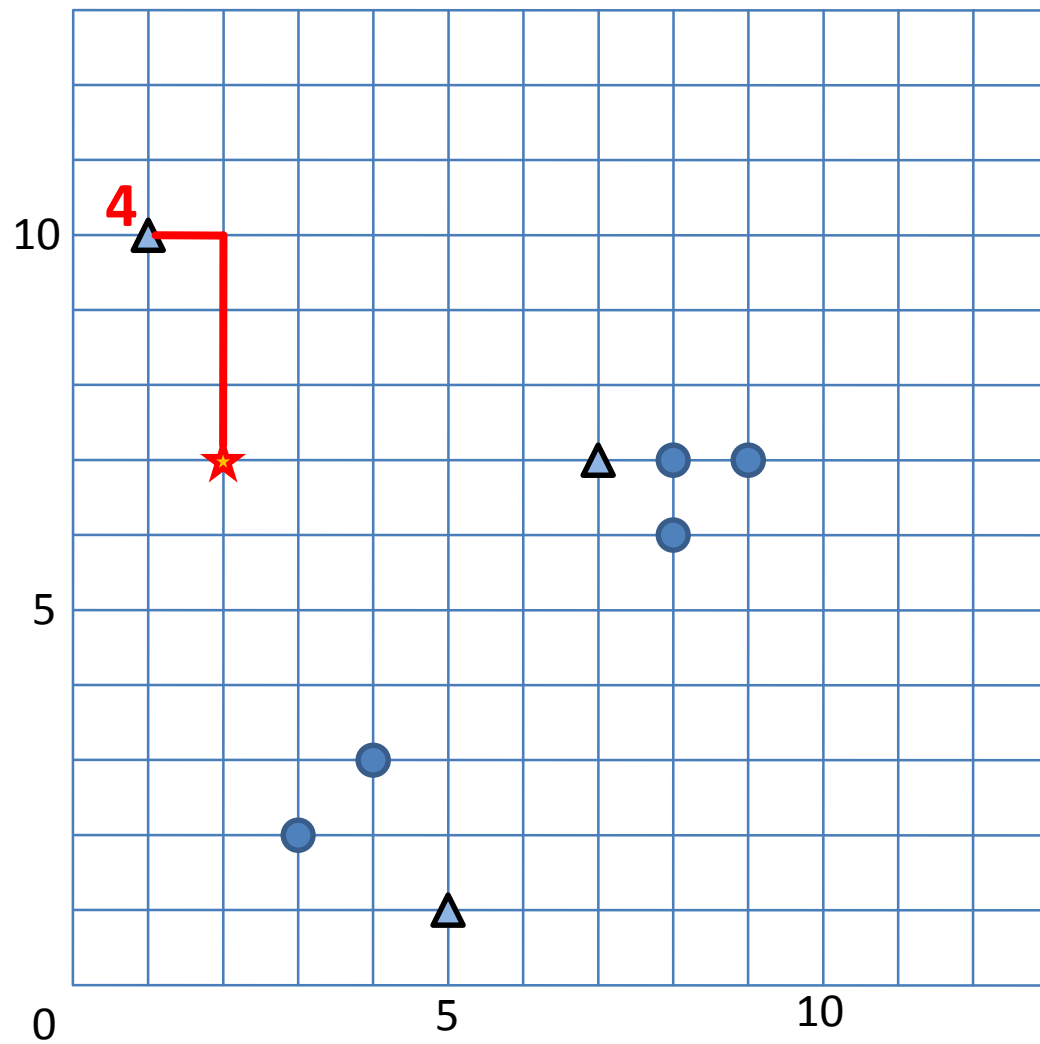


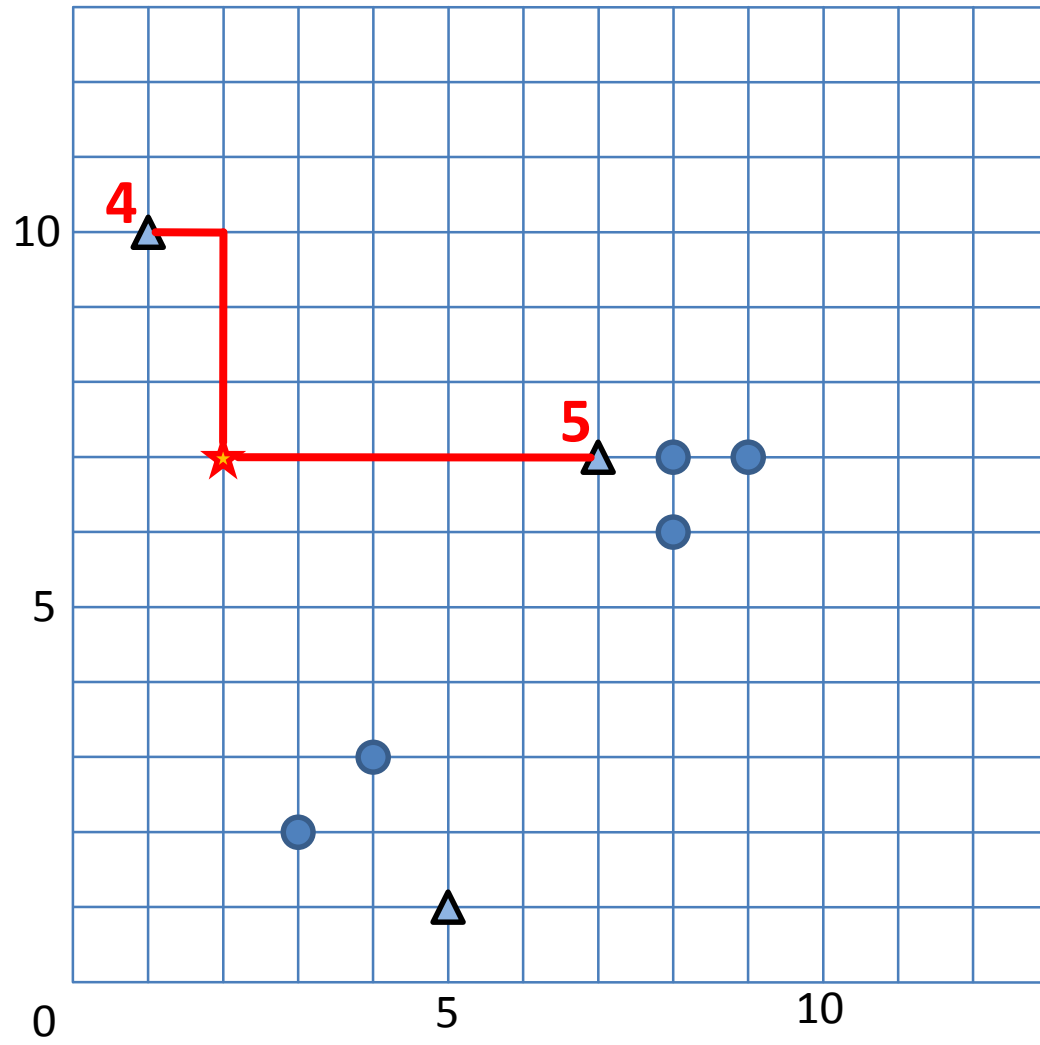
6-1a)



6-1a)

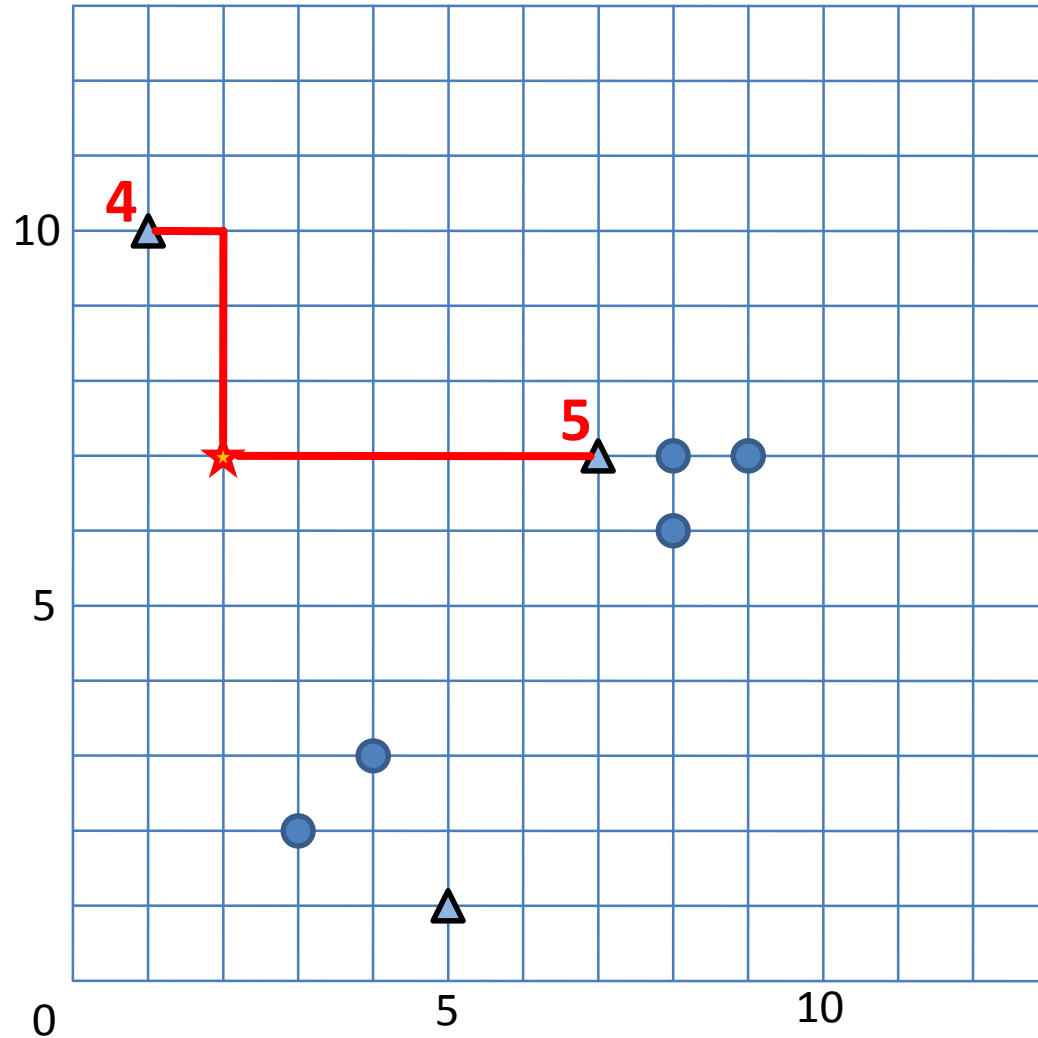


6-1a)



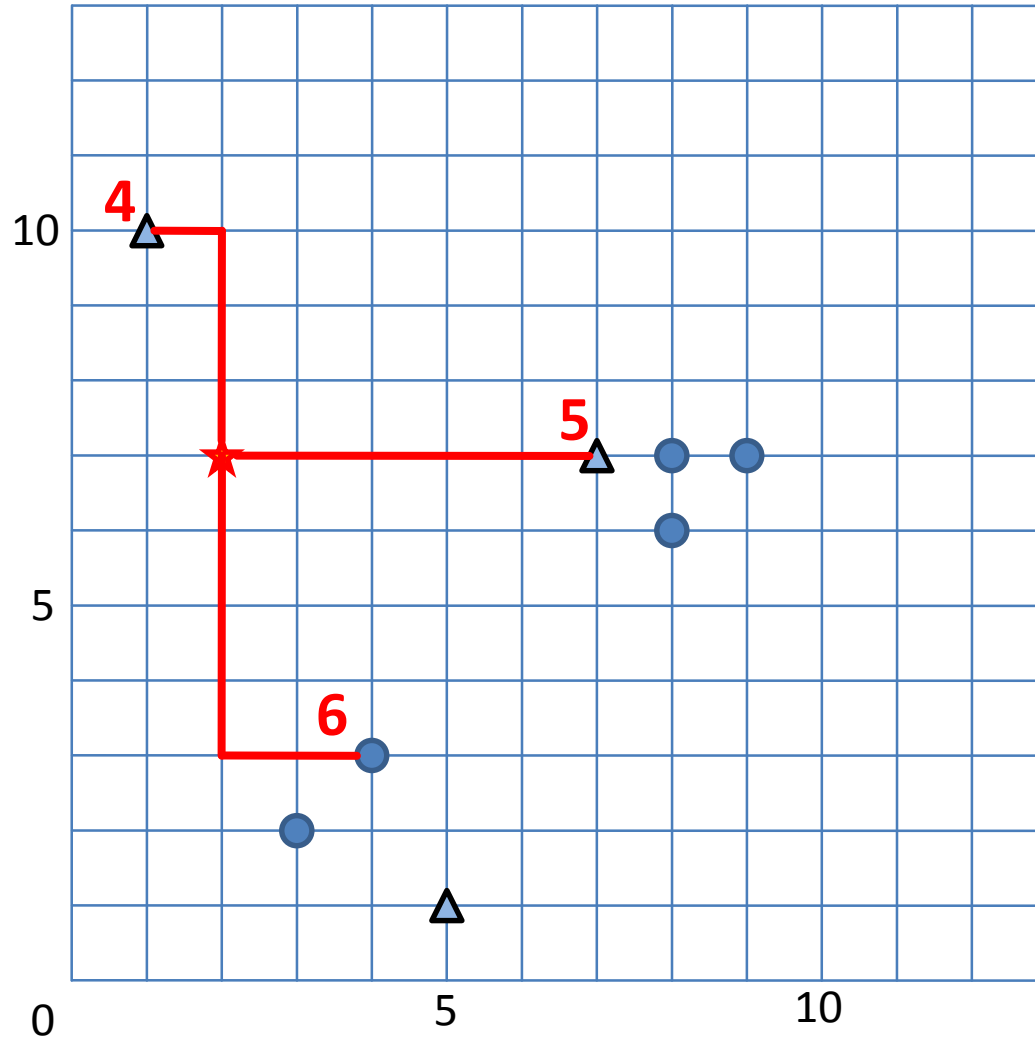
6-1a)

Bei $k=2$ wird \star folglich als \triangle klassifiziert.



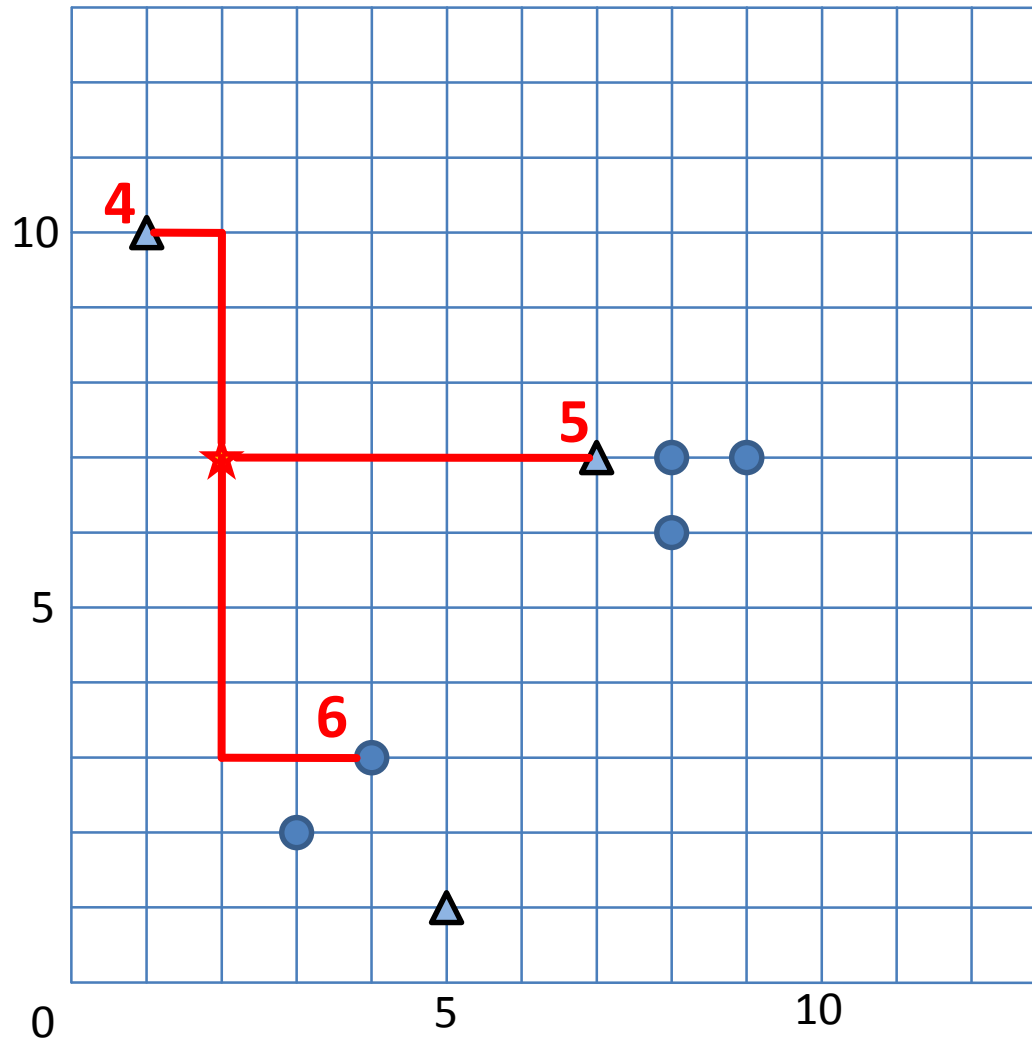
6-1a)

Sonderfall $k=3$: mehrere Punkte haben Abstand 6 zum Anfragepunkt. => Wie wird in diesem Fall verfahren?



Alternative 1: Nicht-deterministische Definition der kNN:
Menge $NN(q,k) \subseteq DB$ mit exakt k Objekten, sodass

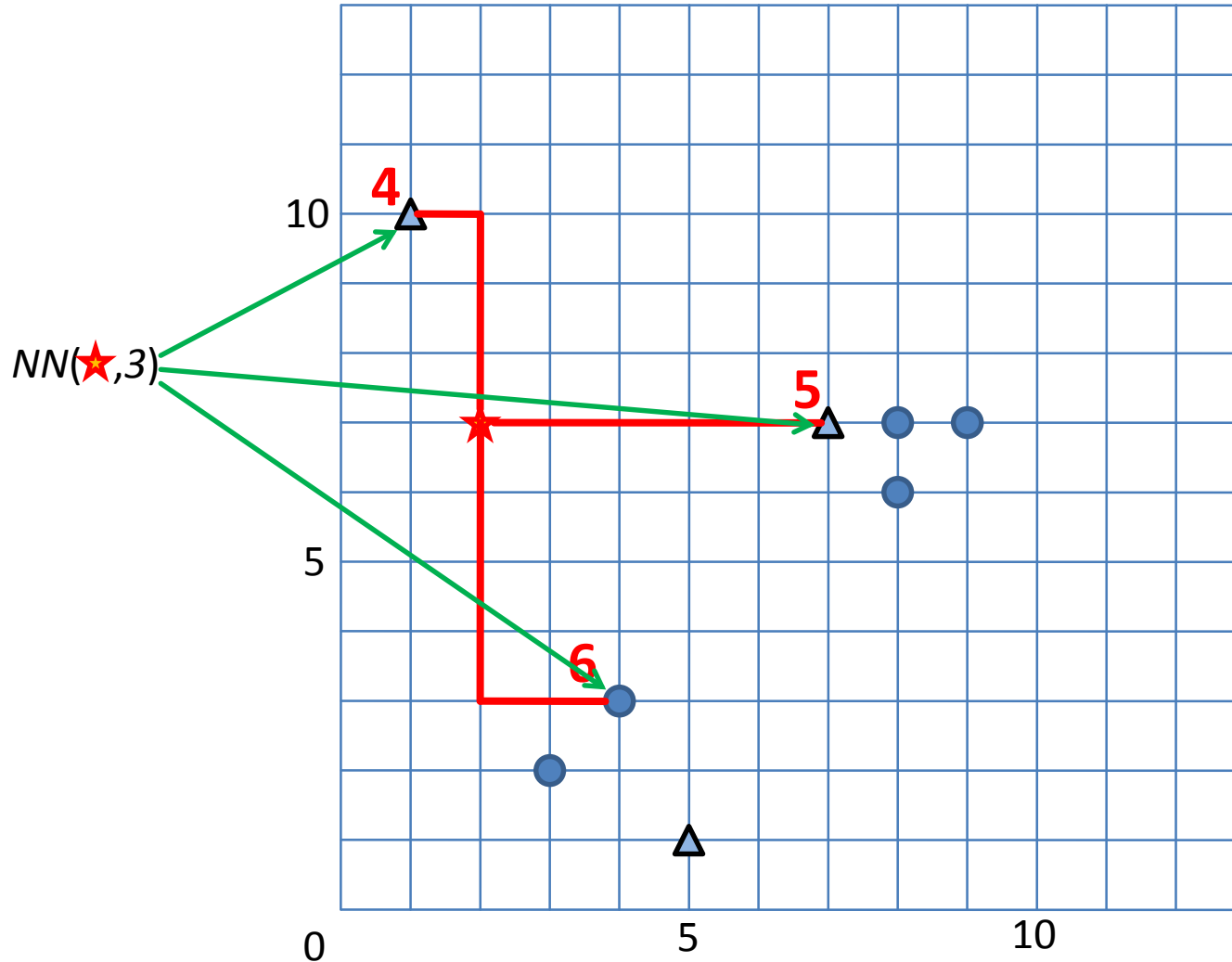
$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) \leq dist(q,o')$$



Nicht-deterministische Definition der kNN:

Menge $NN(q,k) \subseteq DB$ mit exakt k Objekten, sodass

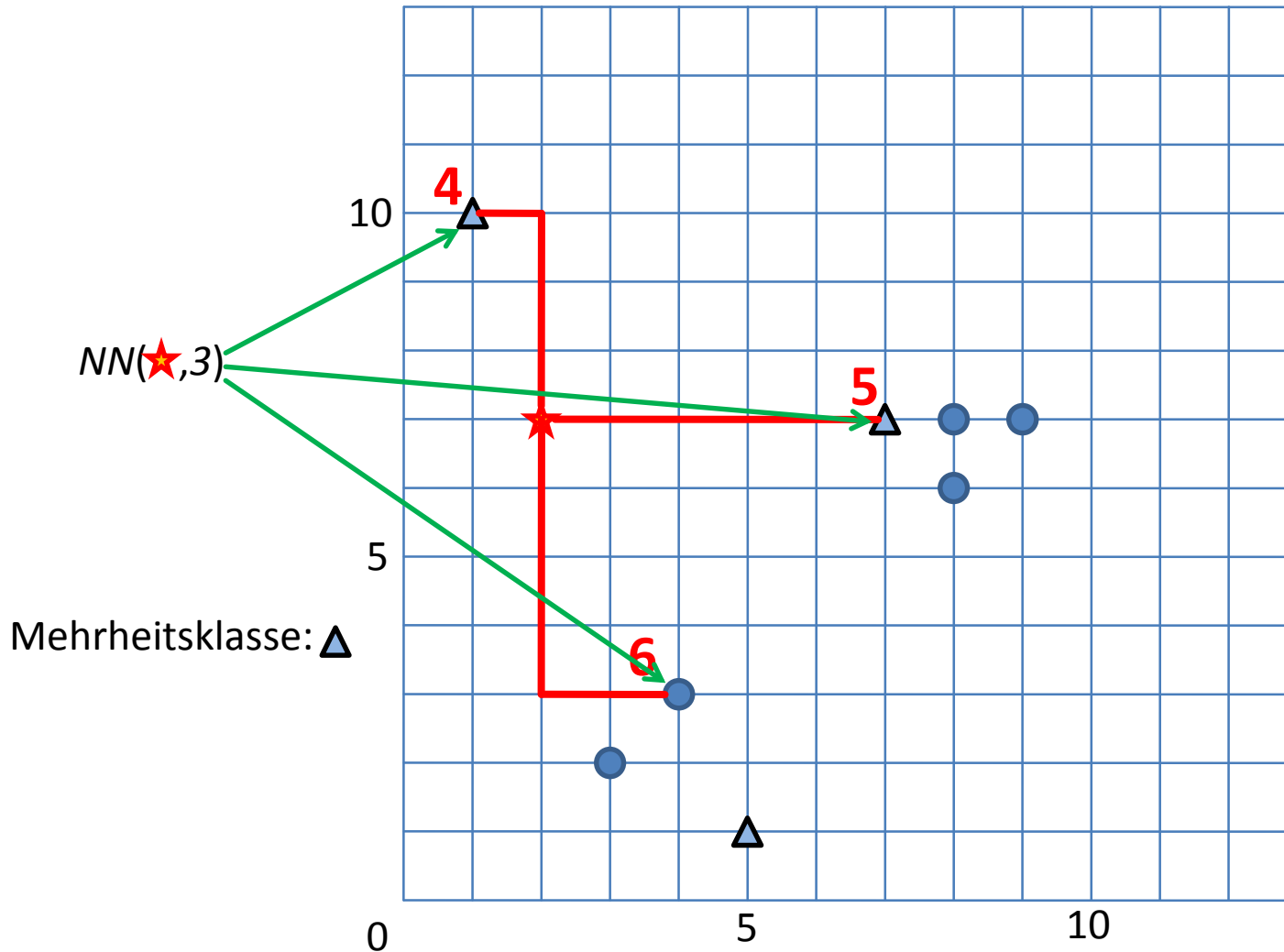
$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) \leq dist(q,o')$$



Nicht-deterministische Definition der kNN:

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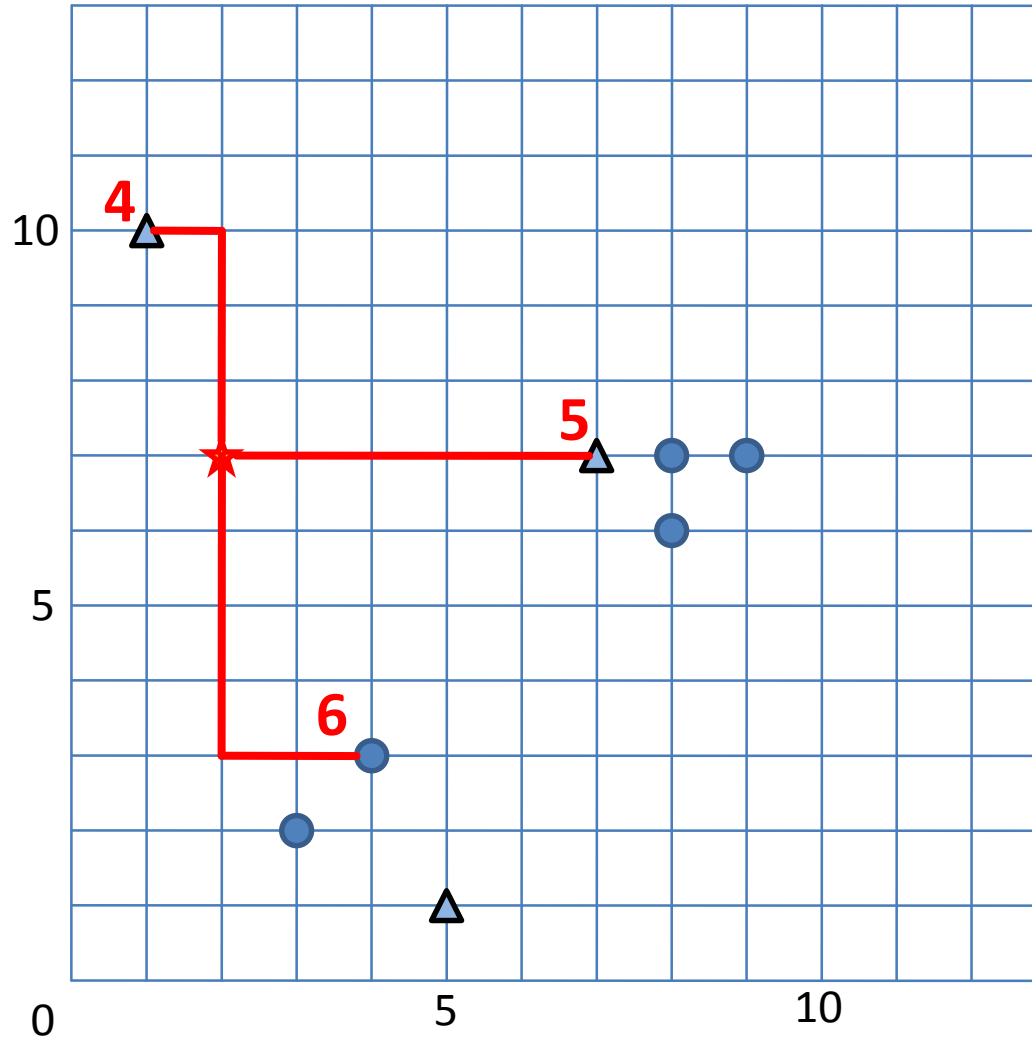
$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) \leq dist(q,o')$$



Deterministische Definition der kNN:

kleinste Menge $NN(q,k) \subseteq DB$ mit mindestens k Objekten, sodass

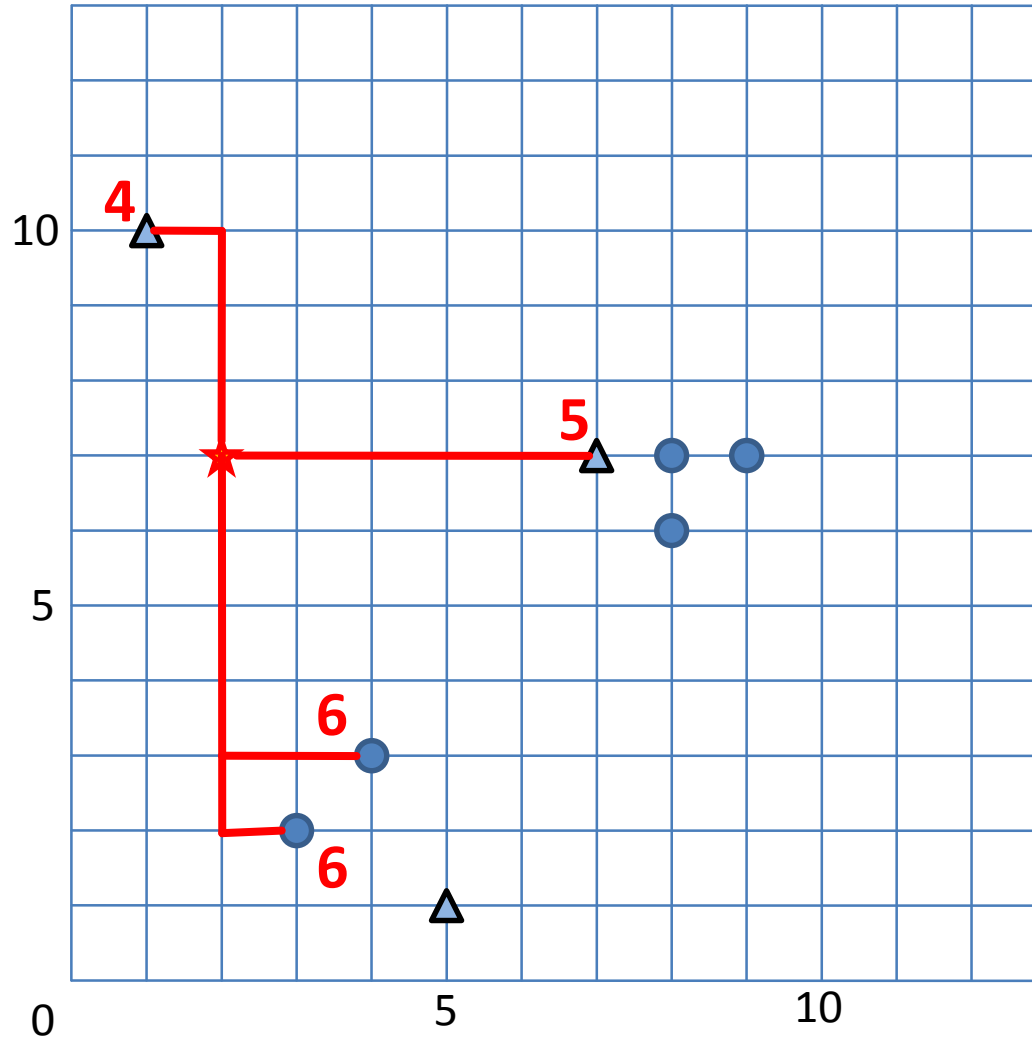
$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) < dist(q,o')$$



Deterministische Definition der kNN:

kleinste Menge $NN(q,k) \subseteq DB$ mit mindestens k Objekten, sodass

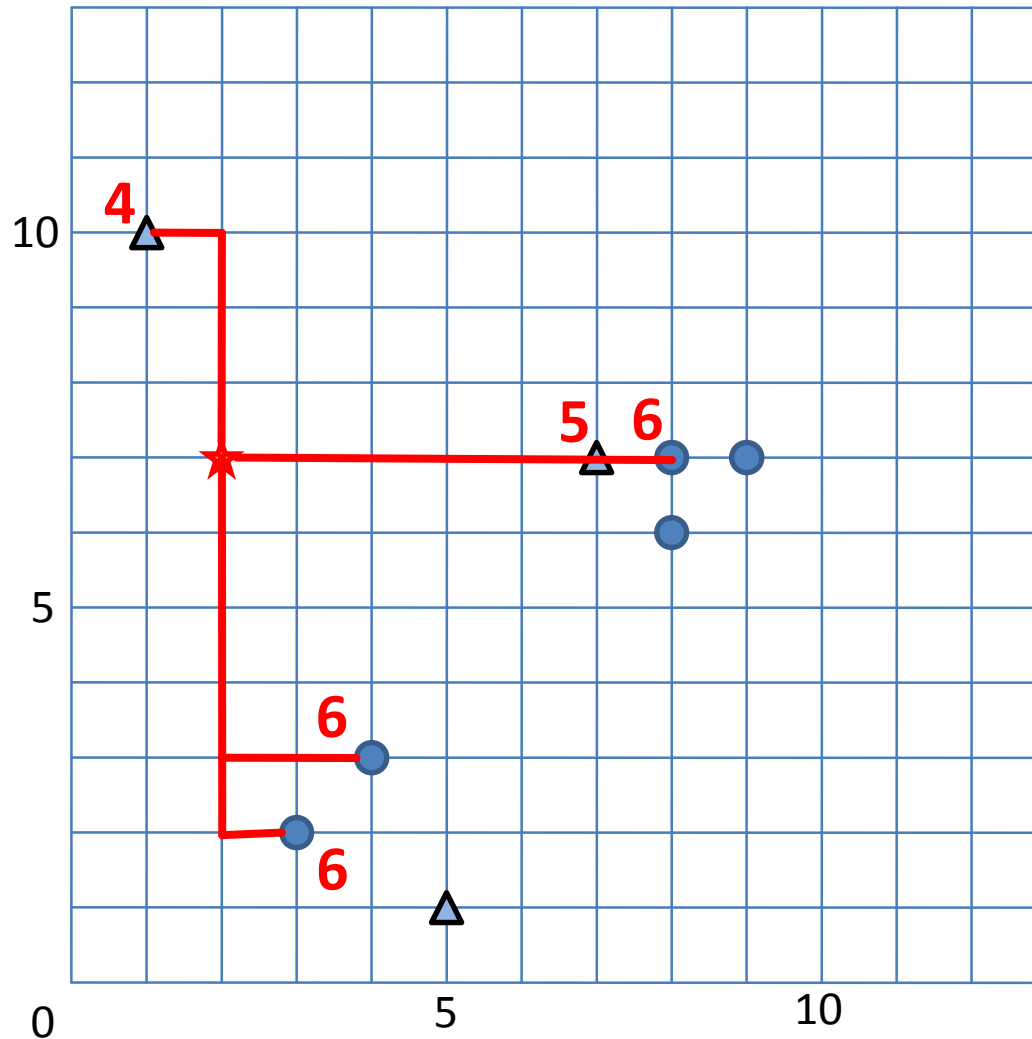
$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) < dist(q,o')$$



Deterministische Definition der kNN:

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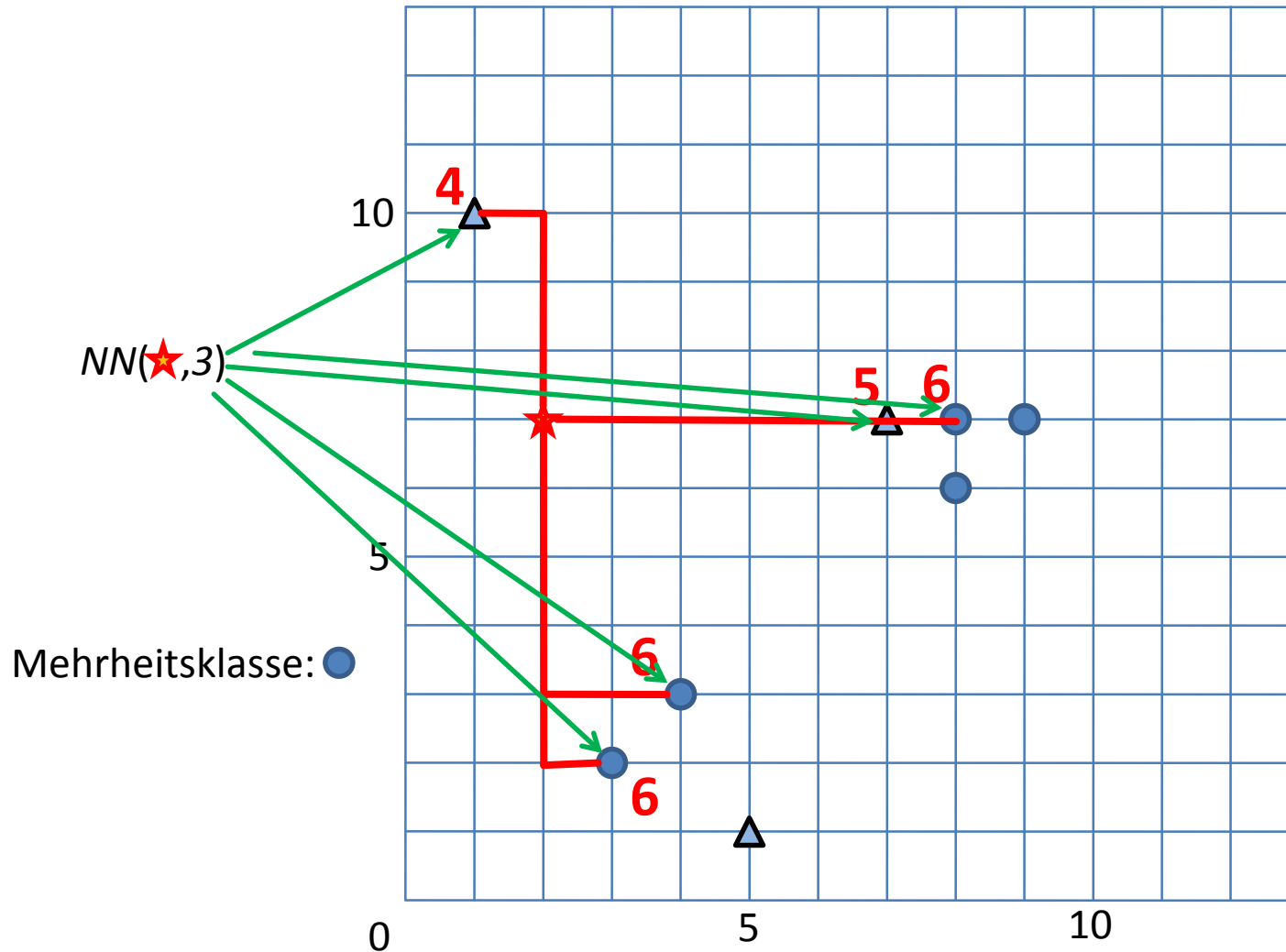
$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) < dist(q,o')$$



Deterministische Definition der kNN:

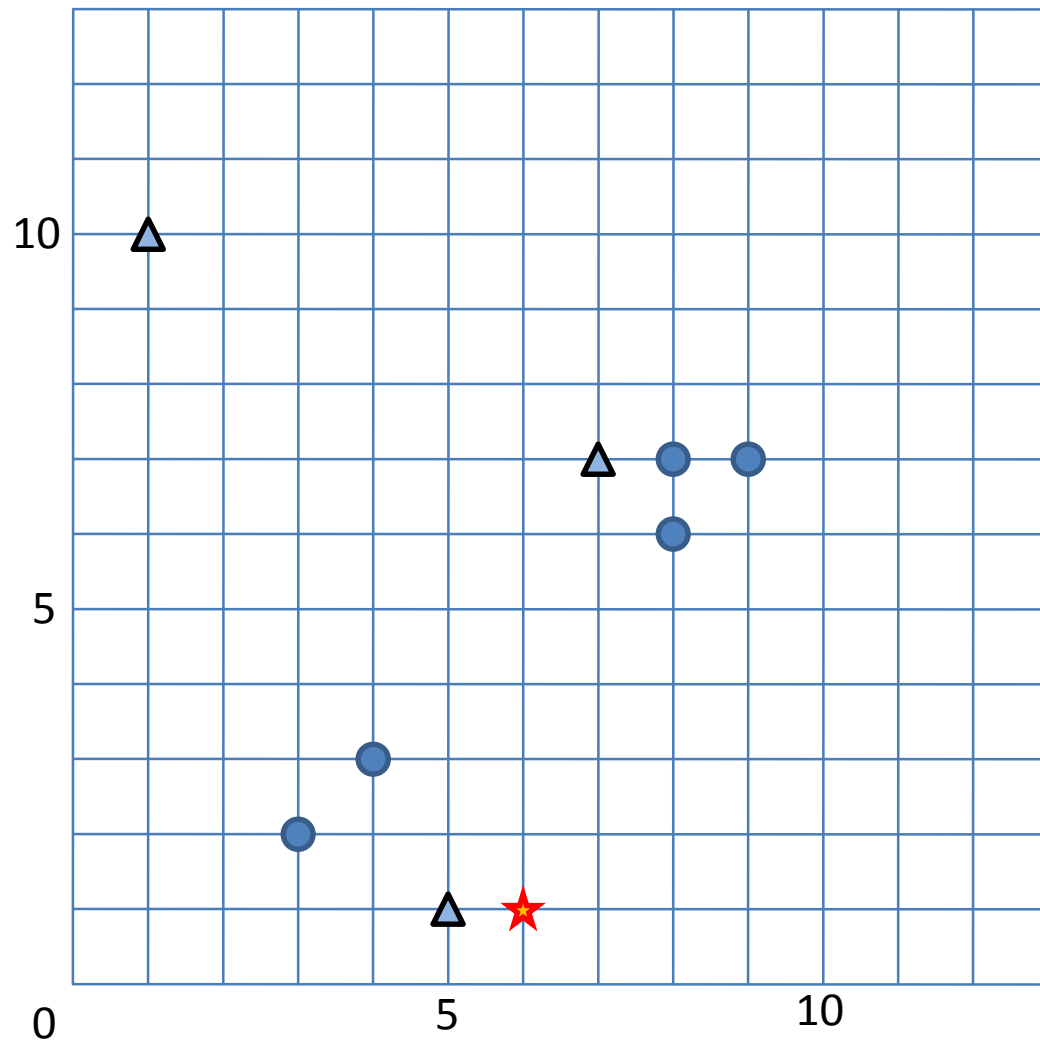
kleinste Menge $NN(q,k) \subseteq DB$ mit mindestens k Objekten, sodass

$$\forall o \in NN(q,k), \forall o' \in DB - NN(q,k) : dist(q,o) < dist(q,o')$$

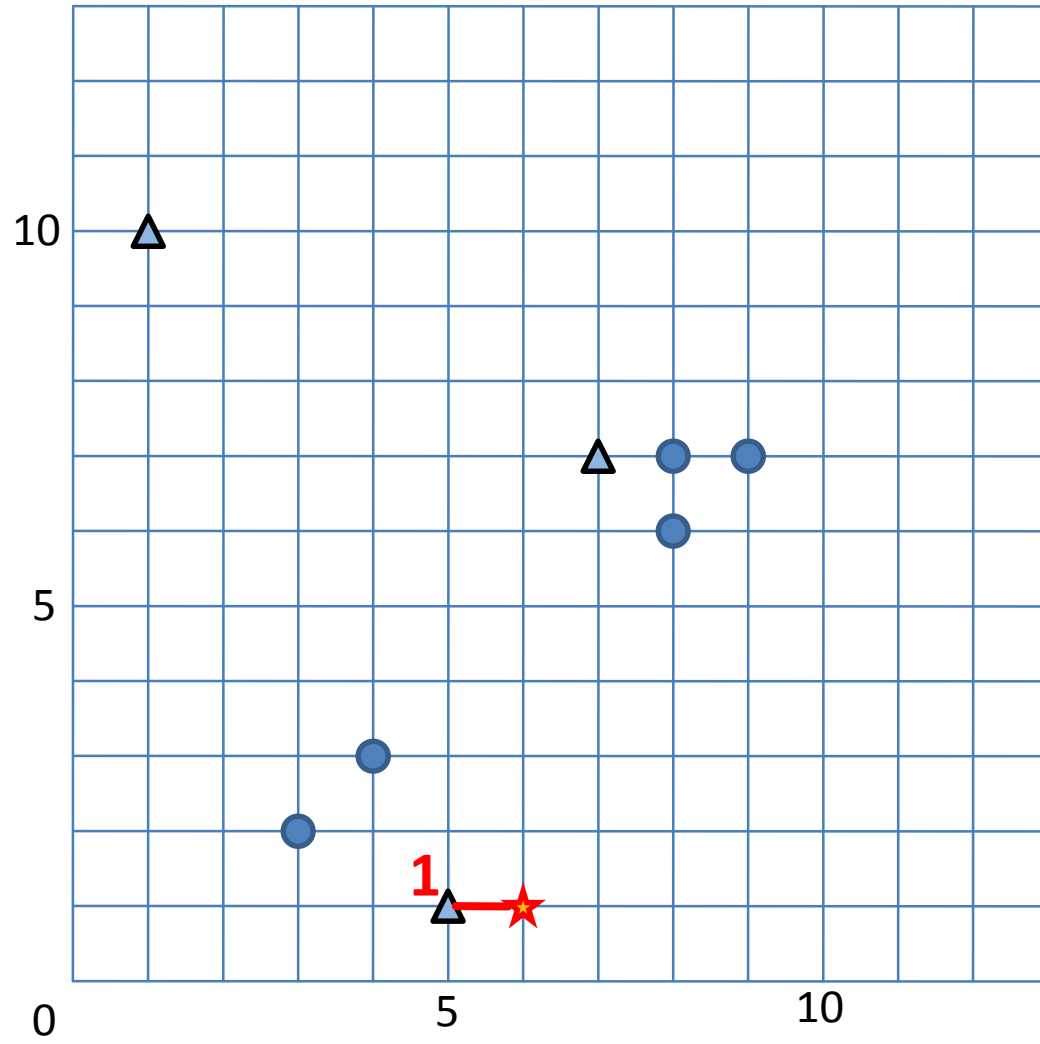


6-1b) Analog zur deterministischen Variante von 6-1a)

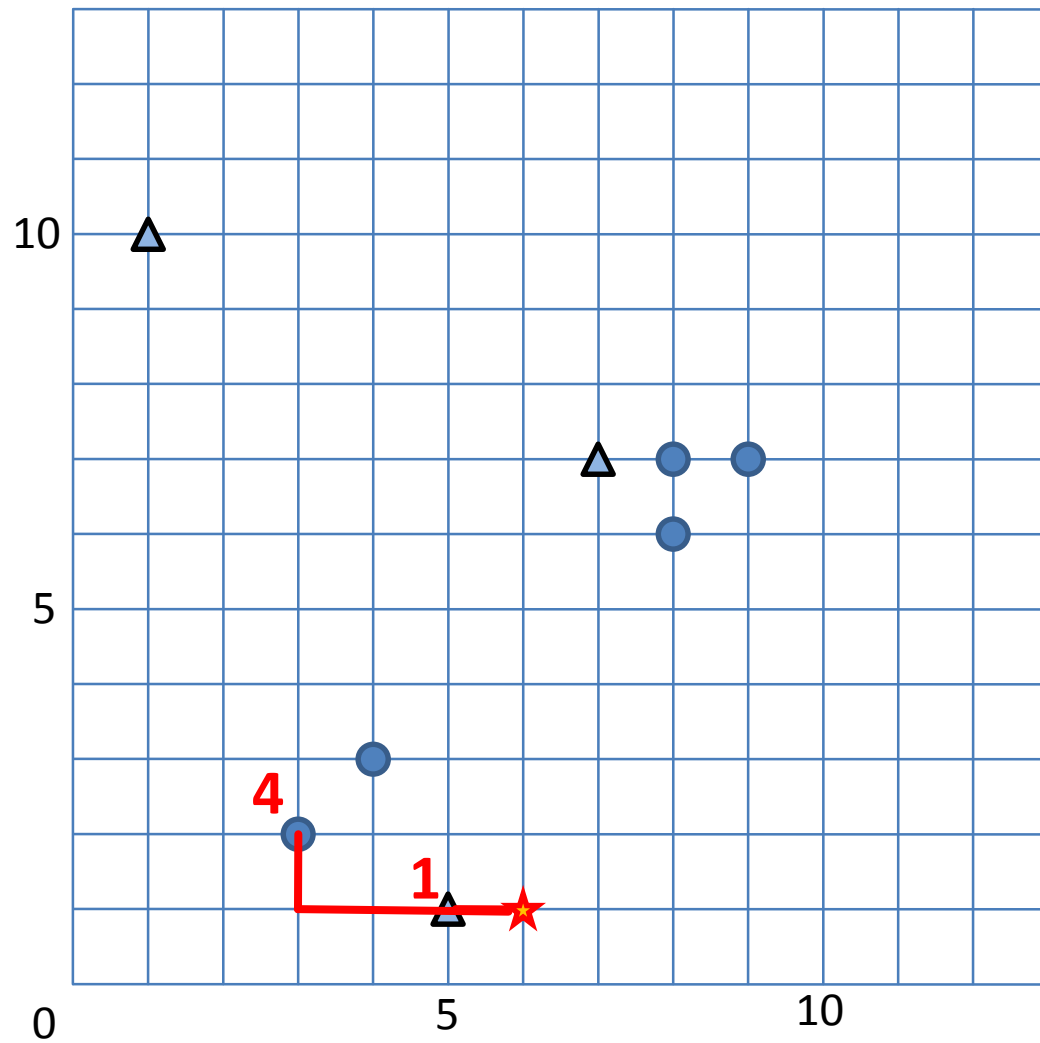
6-1c)



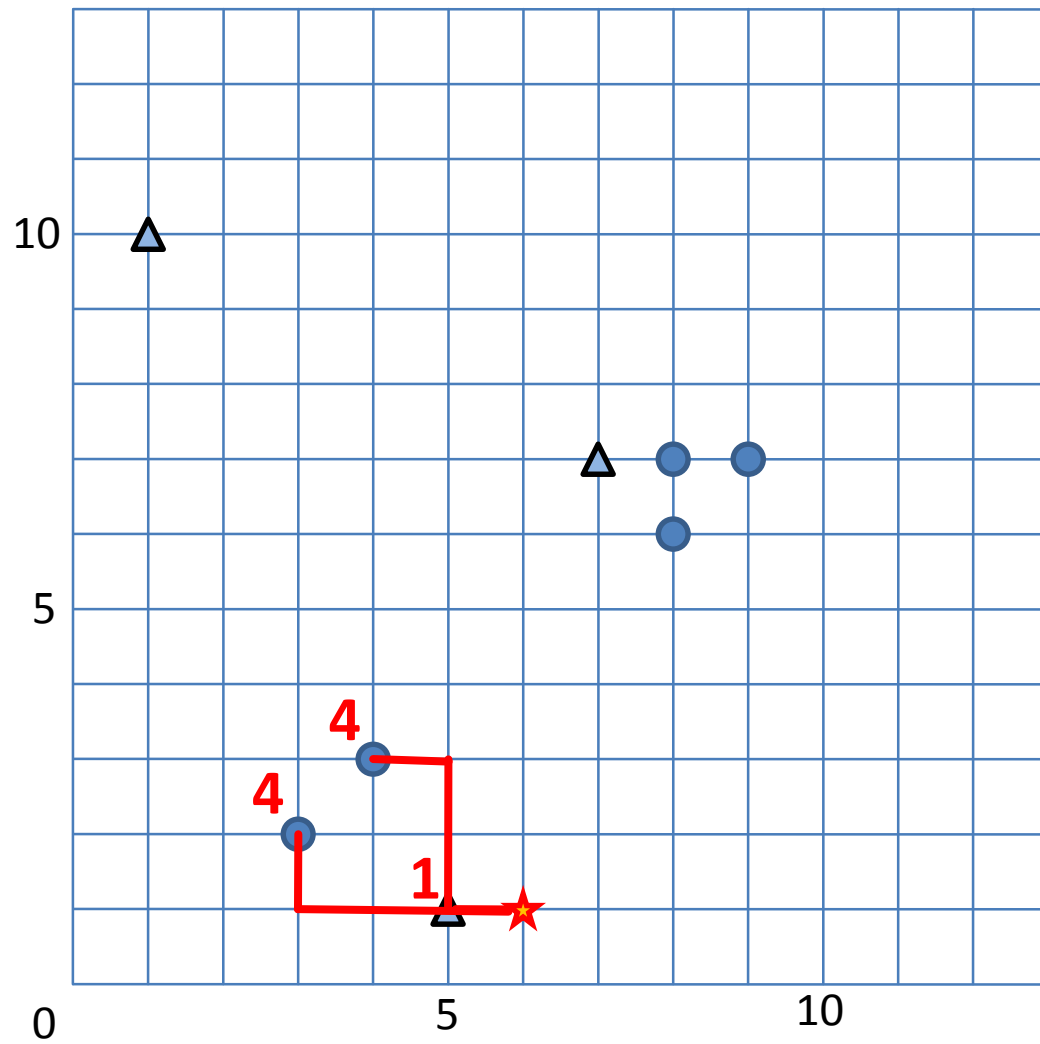
6-1c)



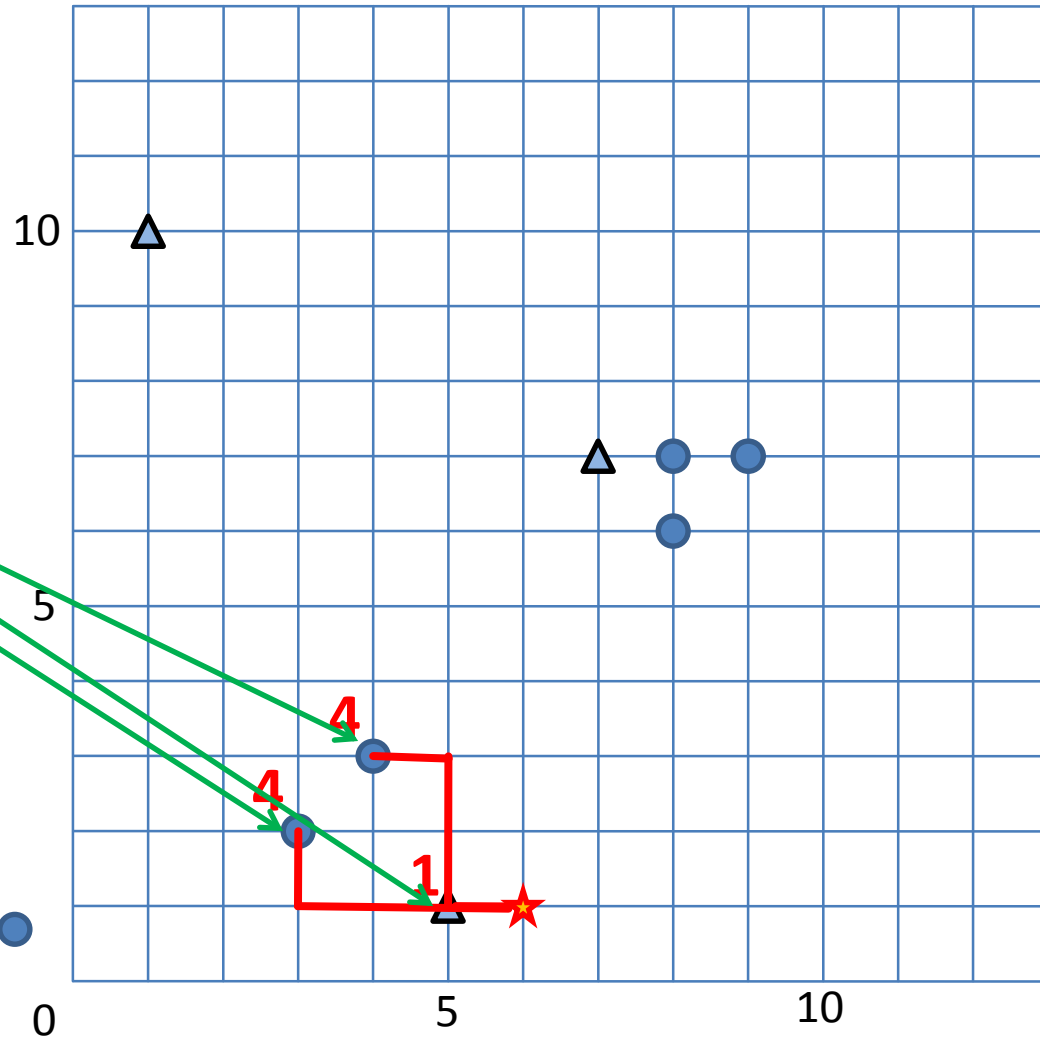
6-1c)



6-1c)



6-1c)



$NN(\star, 3)$

10

5

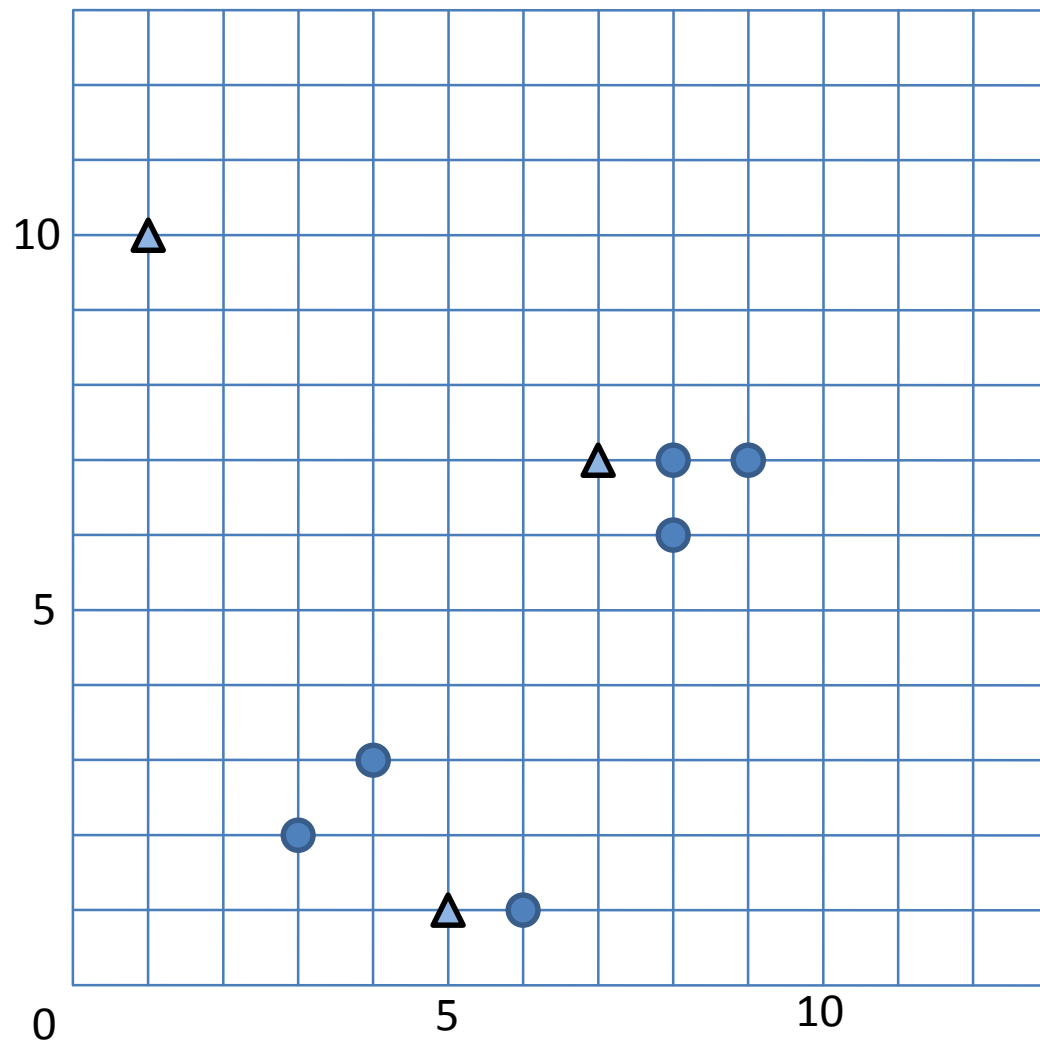
Mehrheitsklasse: ●

0

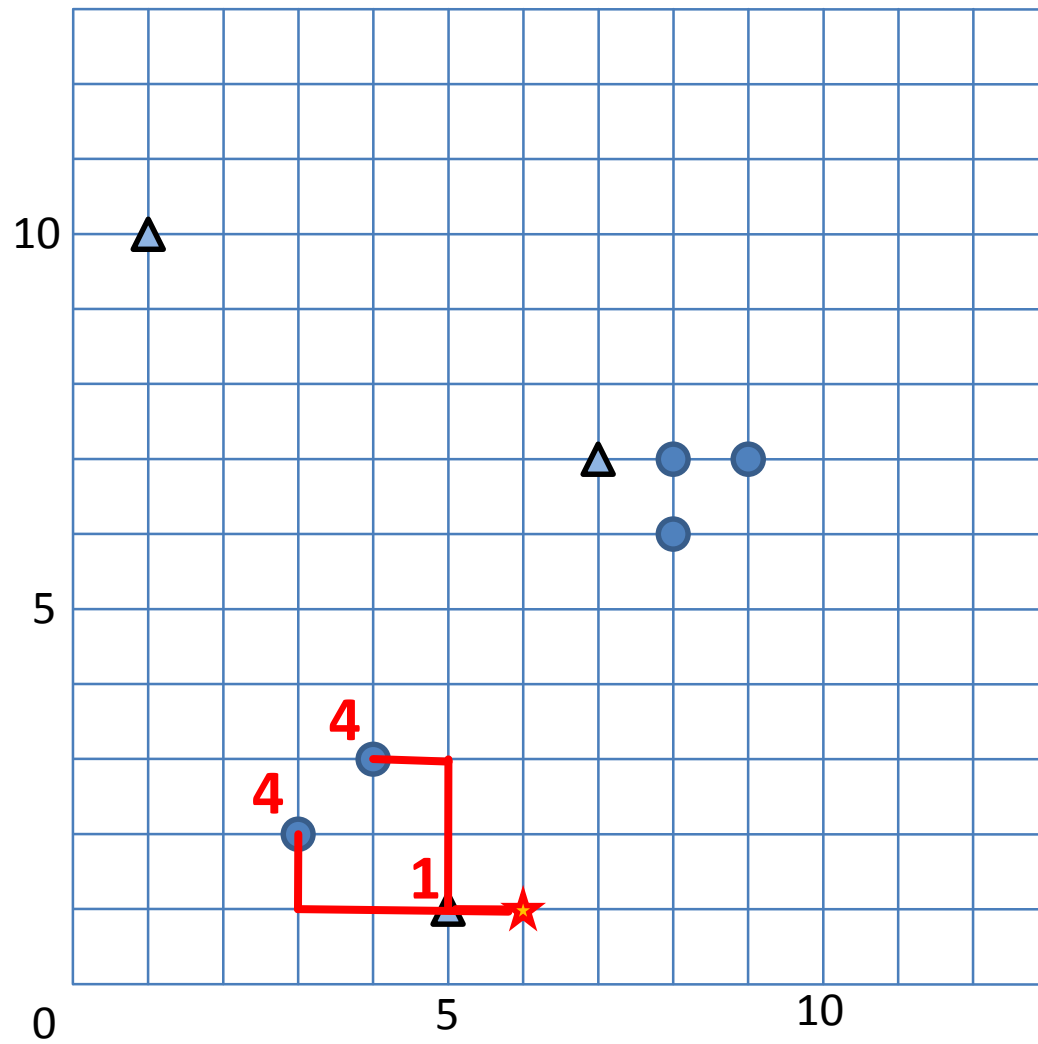
5

10

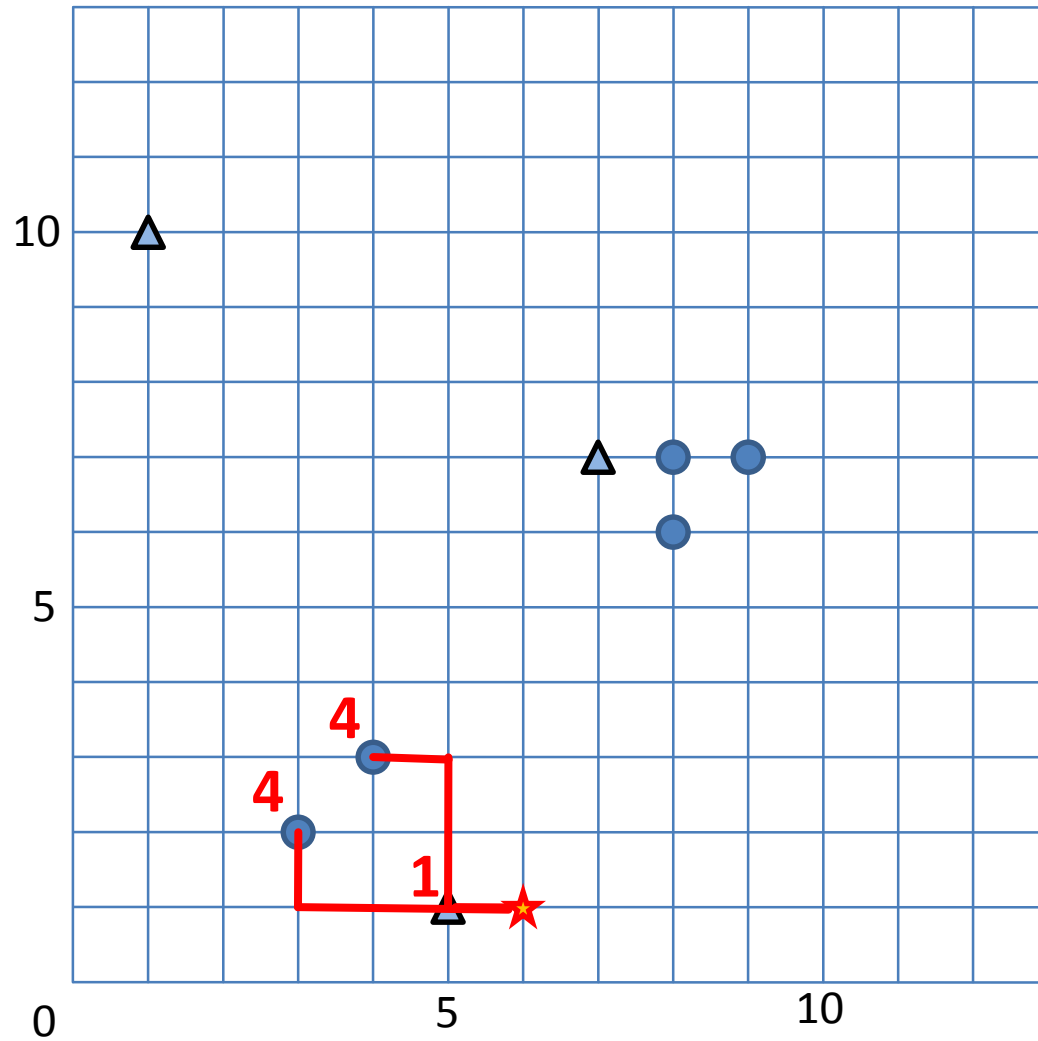
6-1c)



6-1d)



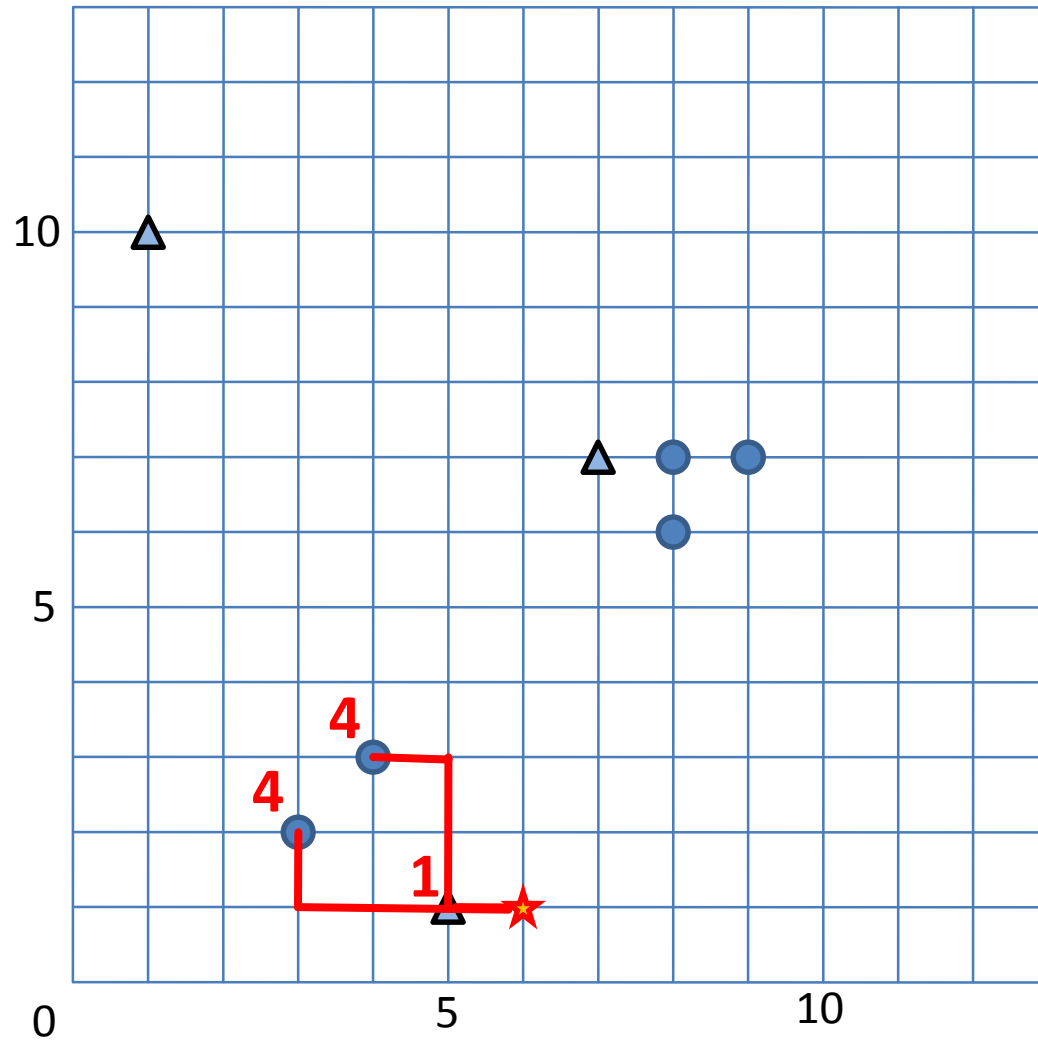
6-1d)



Gewichtung(●) = $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$

Gewichtung(▲) = $\frac{1}{1} = 1$

6-1d)



Gewichtung(●) = $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$

Gewichtung(△) = $\frac{1}{1} = 1$

Größtes Gewicht: △

6-1d)

