

Start: **A**

A.CIId = Unclassified

ExpandiereCluster (DB, A, 1, 1.1, 3)

Unclassified

A B C D E F G H I J
K L M N O P Q R S T

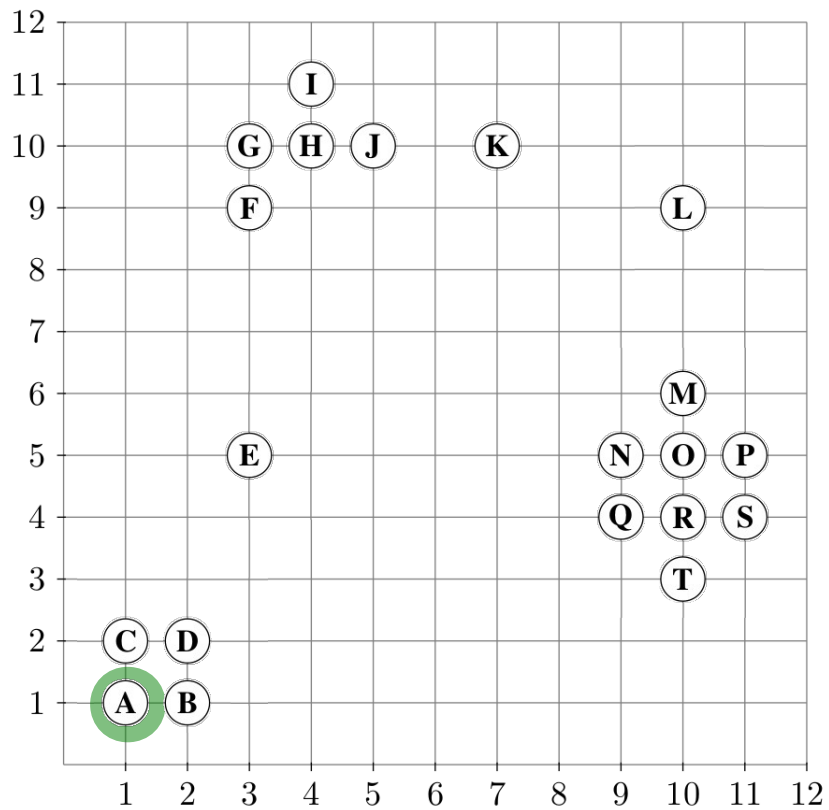
Noise

Seeds

Cluster 1:

Cluster 2:

Cluster 3:



Start: **A**

Seeds := RQ (A, 1.1)

Unclassified

A B C D E F G H I J
K L M N O P Q R S T

Noise

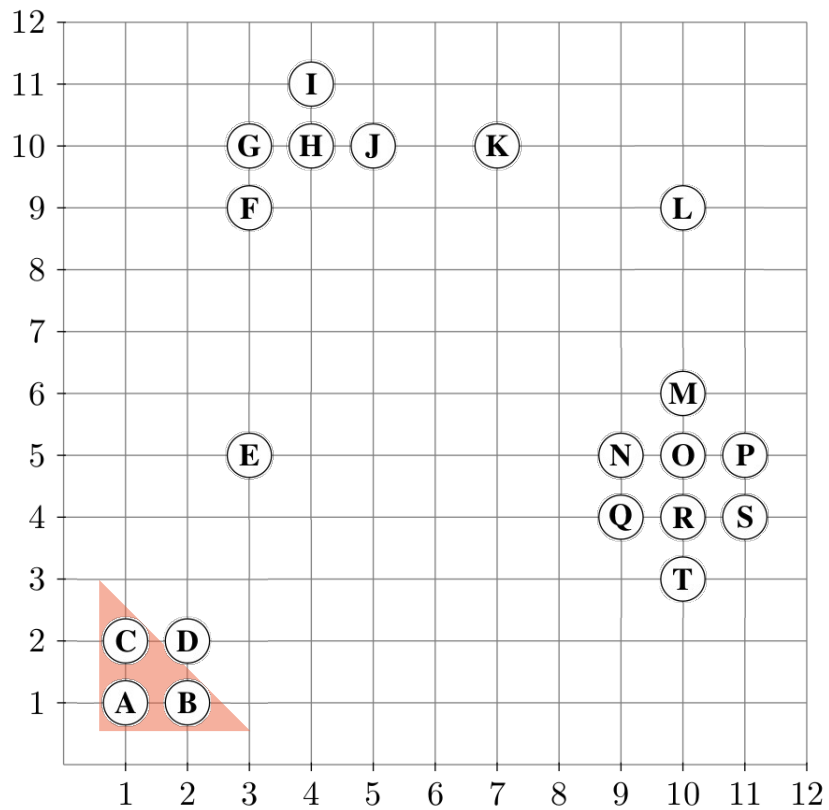
Seeds

A B C

Cluster 1:

Cluster 2:

Cluster 3:



Cluster: (A) (B) (C)

Forall o in Seeds: o.ClId := ClusterId
Entferne Startobjekt aus Seeds

Unclassified

(D) (E) (F) (G) (H) (I) (J)
(K) (L) (M) (N) (O) (P) (Q) (R) (S) (T)

Noise

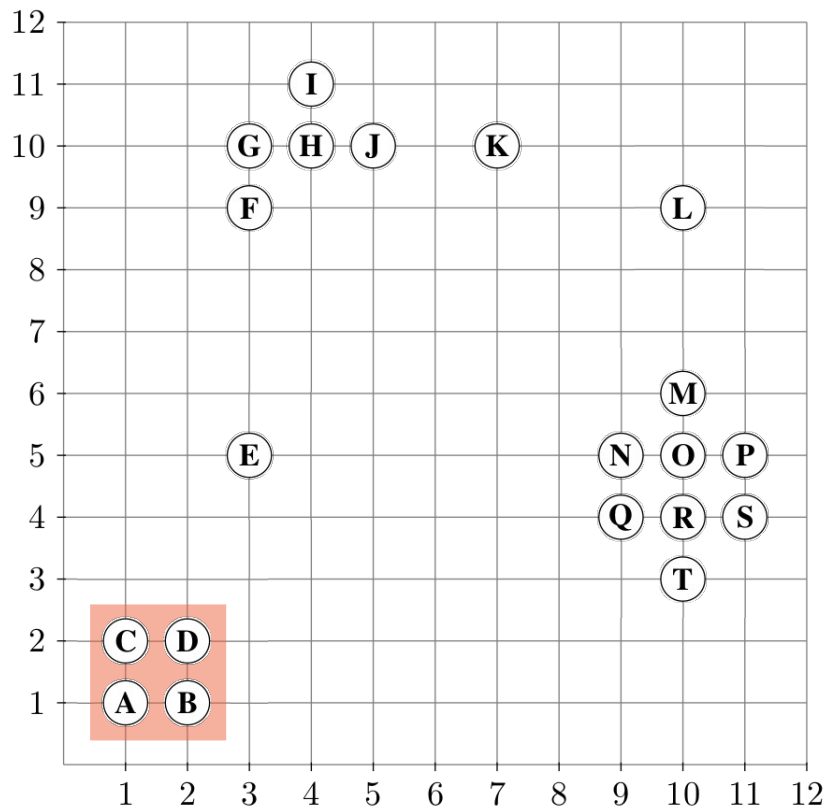
Seeds

(B) (C)

Cluster 1: A, B, C

Cluster 2:

Cluster 3:



Punkt: **B**

While Seeds != empty do
 RQ (B, 1.1) = {A, B, D}

A.Clld = 1. fertig

B.Clld = 1. fertig

D.Clld = Unclassified →

Seeds += D

D.Clld = 1

Entferne B aus Seeds

Unclassified

E F G H I J
 K L M N O P Q R S T

Noise

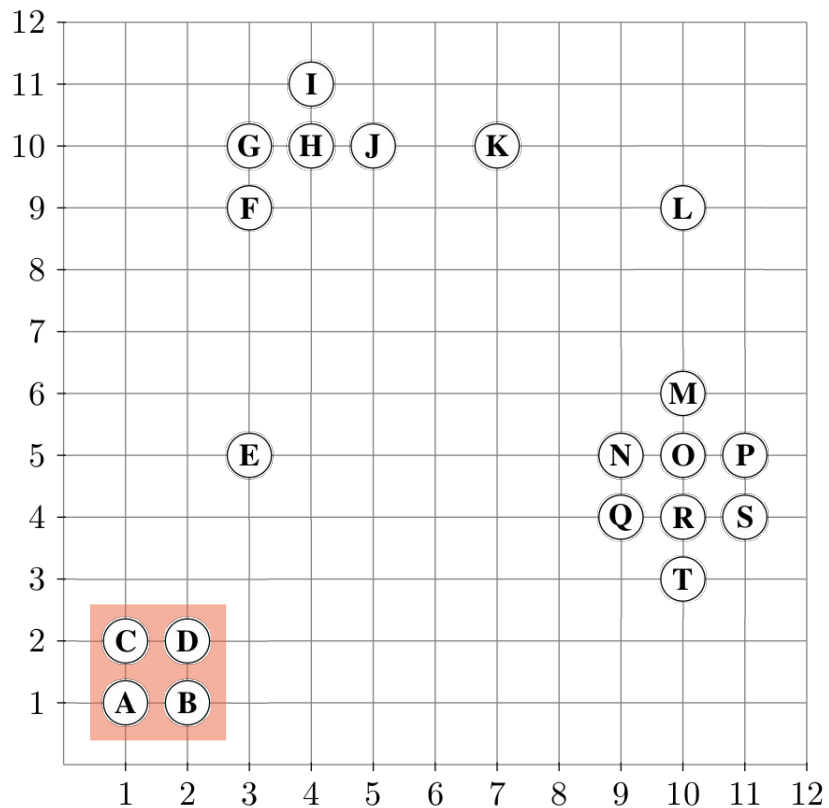
Seeds

C D

Cluster 1: A, B, C, D

Cluster 2:

Cluster 3:



Punkt: **C**

While Seeds != empty do
 RQ (C, 1.1) = {A, C, D}

A.Clld = 1. fertig

C.Clld = 1. fertig

D.Clld = 1. fertig

Entferne C aus Seeds

Unclassified

E F G H I J
 K L M N O P Q R S T

Noise

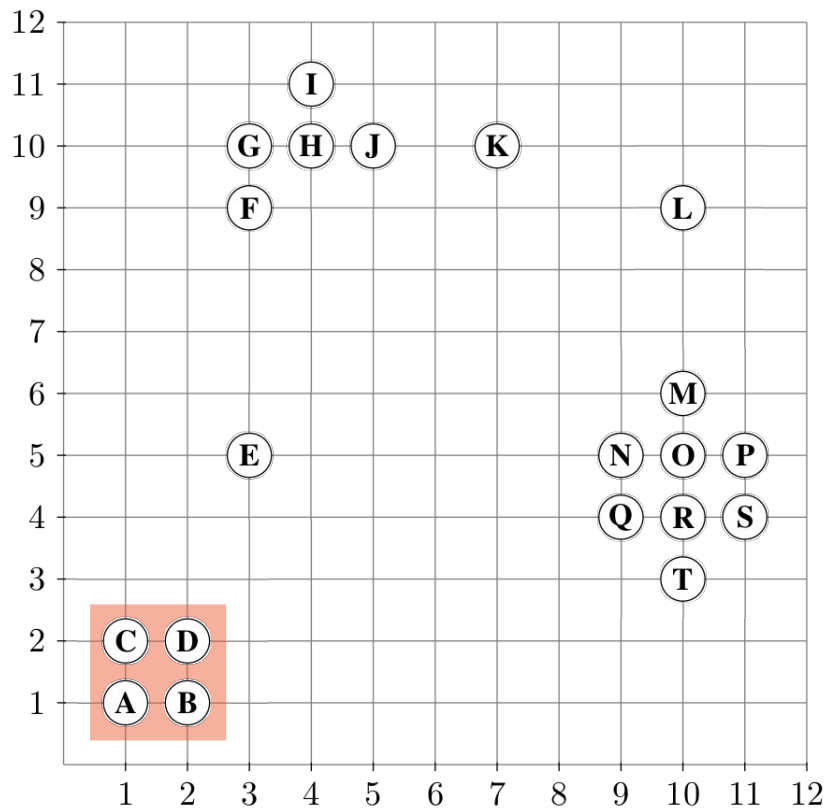
Seeds

D

Cluster 1: A, B, C, D

Cluster 2:

Cluster 3:



Punkt: **D**

While Seeds != empty do
 RQ (D, 1.1) = {B, C, D}

B.ClId = 1. fertig

C.ClId = 1. fertig

D.ClId = 1. fertig

Entferne D aus Seeds

Unclassified

E F G H I J
 K L M N O P Q R S T

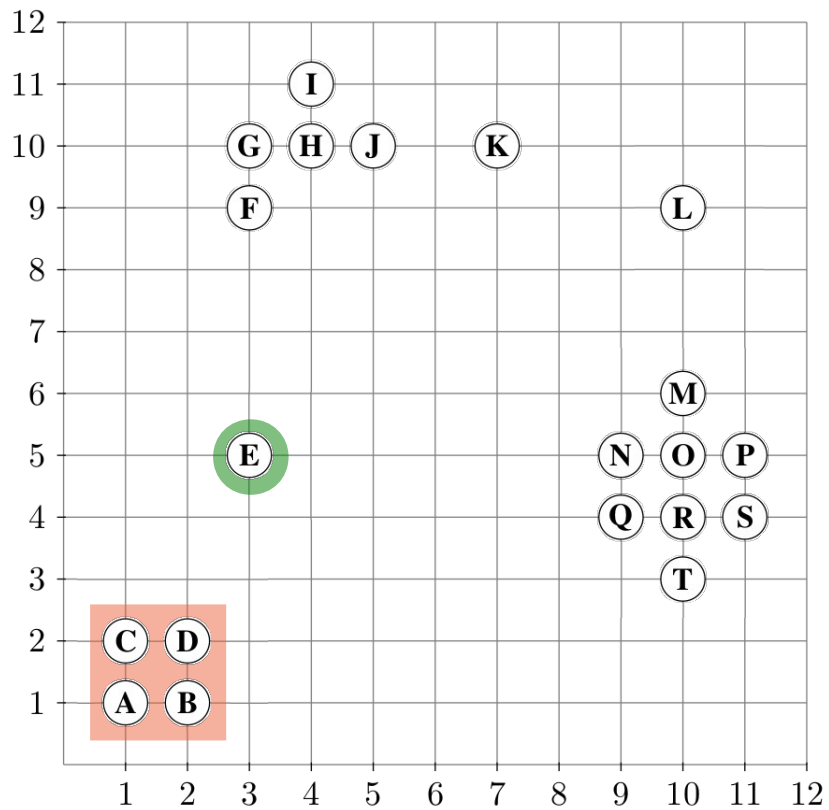
Noise

Seeds

Cluster 1: A, B, C, D

Cluster 2:

Cluster 3:



Start: **E**

E.CId = Unclassified

ExpandiereCluster (DB, E, 2, 1.1, 3) = false

E.CId := Noise

Unclassified

F G H I J
K L M N O P Q R S T

Noise

E

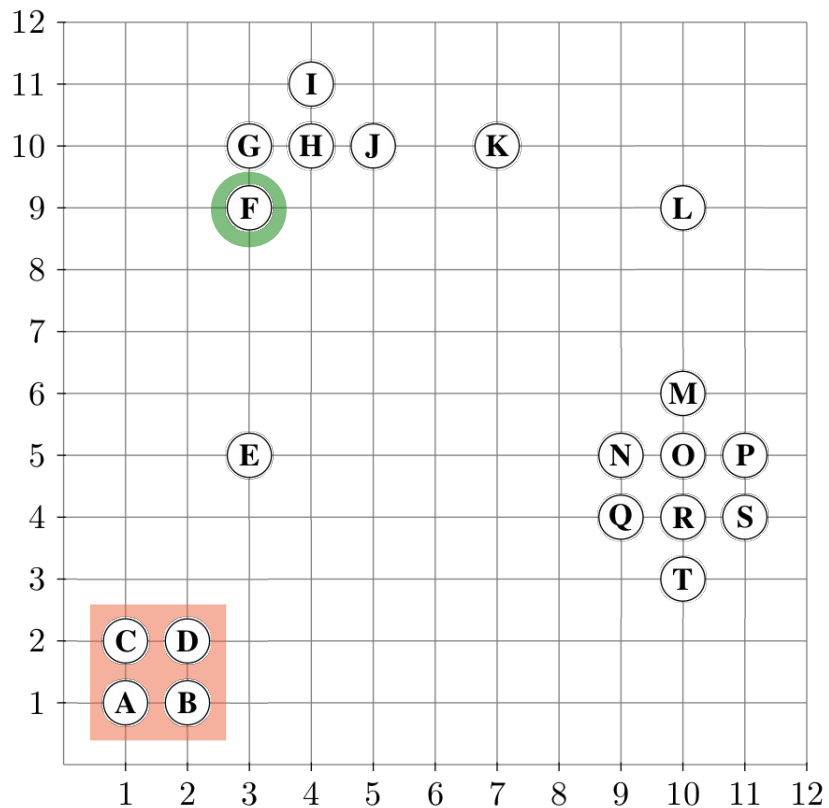
Seeds

E

Cluster 1: A, B, C, D

Cluster 2:

Cluster 3:



Start: **F**

F.CId = Unclassified

ExpandiereCluster (DB, F, 2, 1.1, 3)
 RQ (F, 1.1) = {F,G} → false

F.CId := Noise

Unclassified

G H I J
 K L M N O P Q R S T

Noise

E F

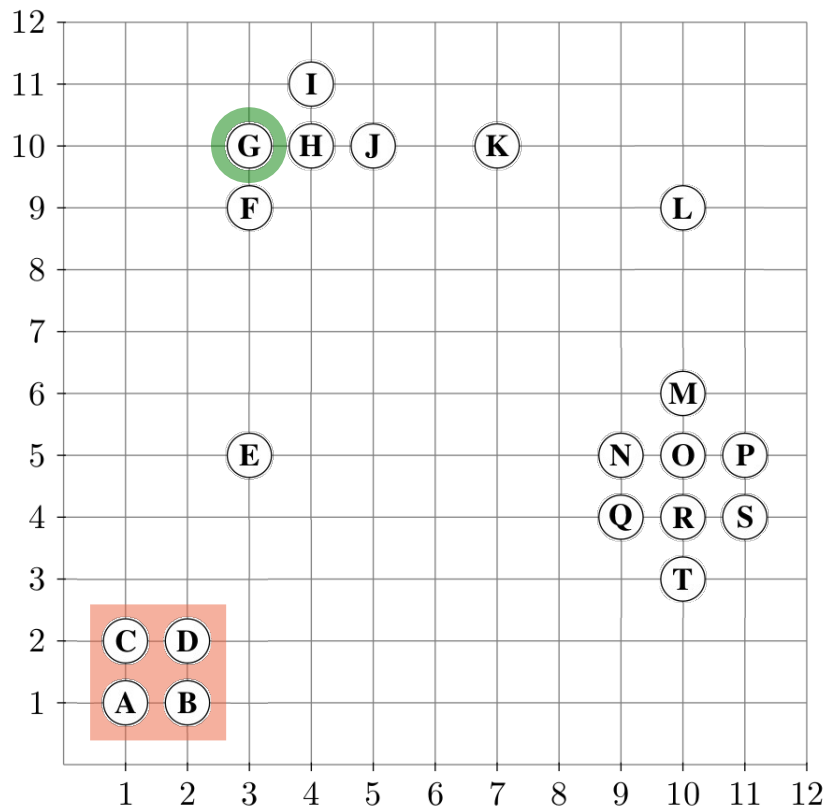
Seeds

F G

Cluster 1: A, B, C, D

Cluster 2:

Cluster 3:



Start: **G**

G.CIId = Unclassified

ExpandiereCluster (DB, G, 2, 1.1, 3)

RQ (G, 1.1) = {F,G,H}

Unclassified

G H I J
 K L M N O P Q R S T

Noise

E F

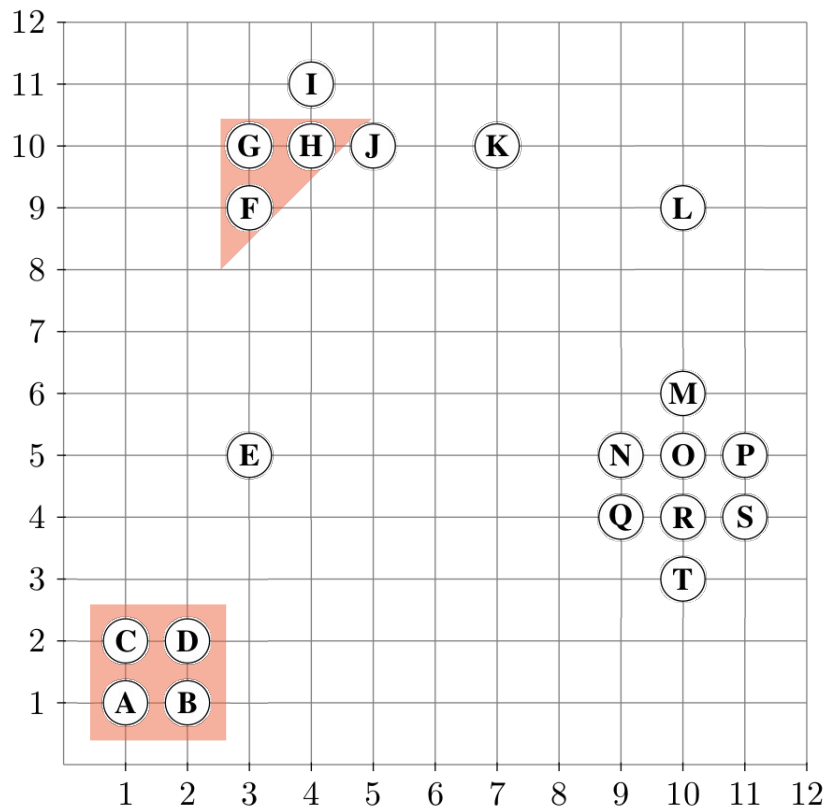
Seeds

F G H

Cluster 1: A, B, C, D

Cluster 2:

Cluster 3:



Cluster: (F) (G) (H)

Forall o in Seeds:
 o.CId := ClusterId
 Entferne G aus Seeds

Unclassified

(K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (I) (J)

Noise

(E)

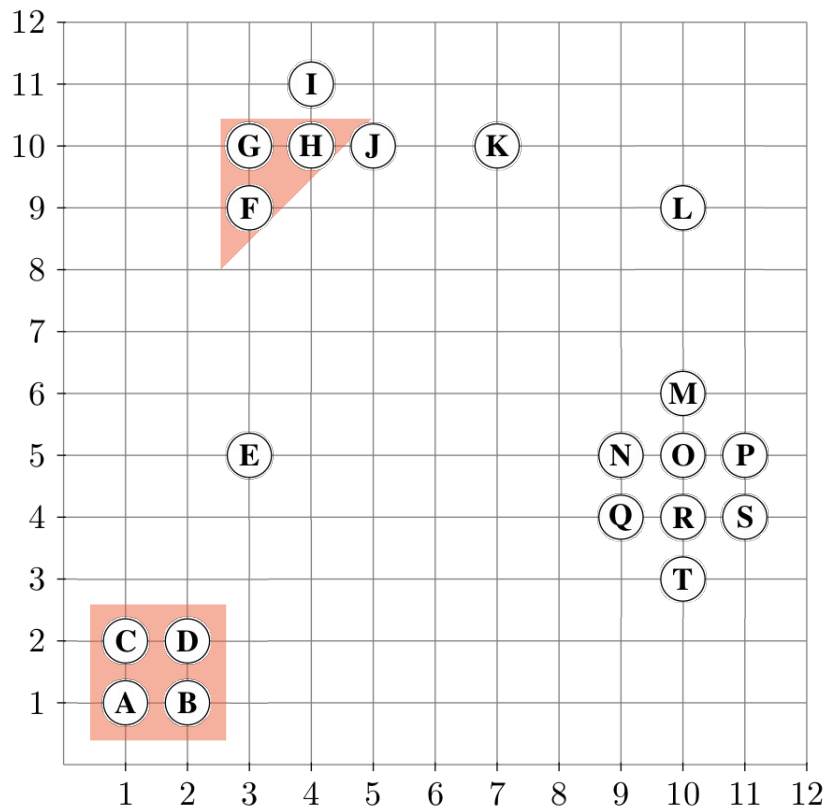
Seeds

(F) (H)

Cluster 1: A, B, C, D

Cluster 2: F, G, H

Cluster 3:



Punkt: **F**

While Seeds != empty do
 RQ (F, 1.1) = {F, G}

F.CIId = 2. fertig
 G.CIId = 2. fertig

Entferne F aus Seeds

Unclassified

K L M N O P Q R S T I J

Noise

E

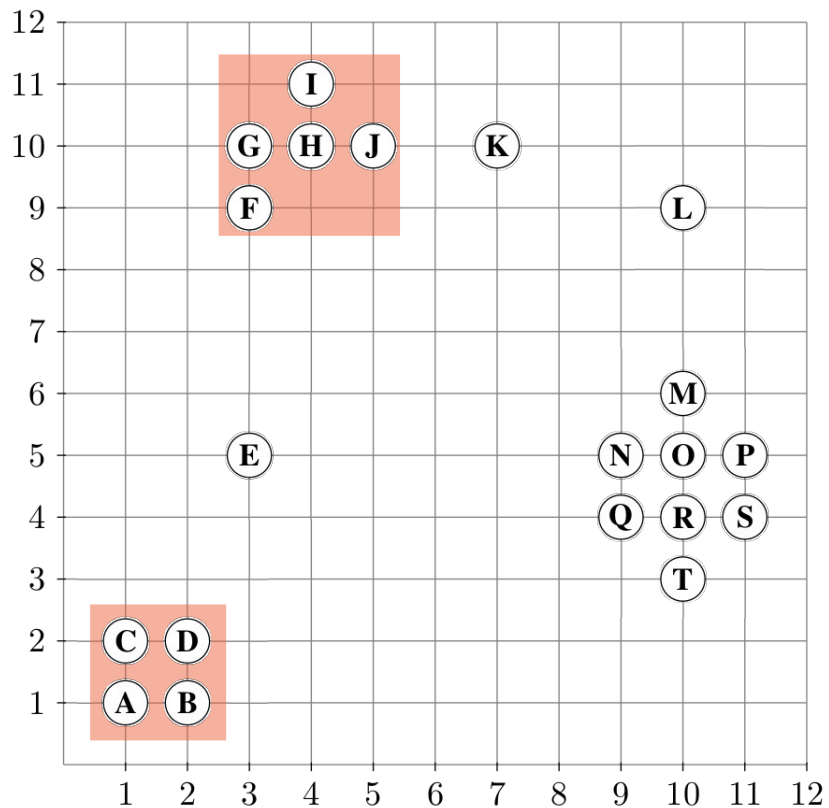
Seeds

H

Cluster 1: A, B, C, D

Cluster 2: F, G, H

Cluster 3:



Punkt: **H**

While Seeds != empty do
 RQ (H, 1.1) = {G, H, I, J}

G.ClId = 2. fertig

H.ClId = 2. fertig

I.ClId = Unclassified → Seeds += I

J.ClId = Unclassified → Seeds += J

I.ClId := J.ClId := 2

Entferne H aus Seeds

Unclassified

K L M N O P Q R S T

Noise

E

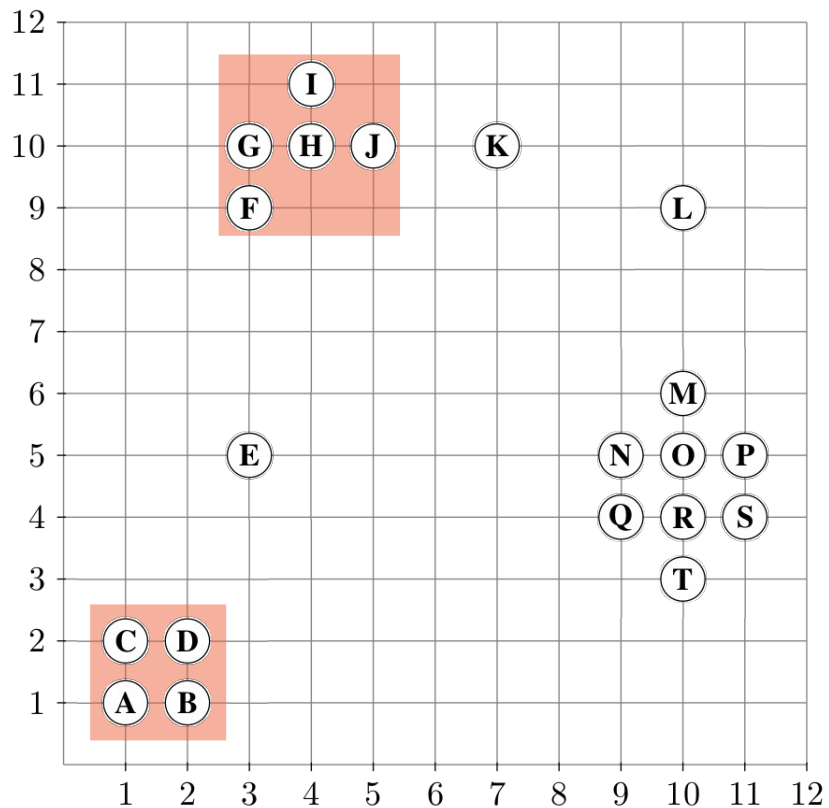
Seeds

I J

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3:



Punkt: **I**

While Seeds != empty do
 $RQ(I, 1.1) = \{H, I\}$

H.Clld = 2. fertig
 I.Clld = 2. fertig

Entferne I aus Seeds

Unclassified

K L M N O P Q R S T

Noise

E

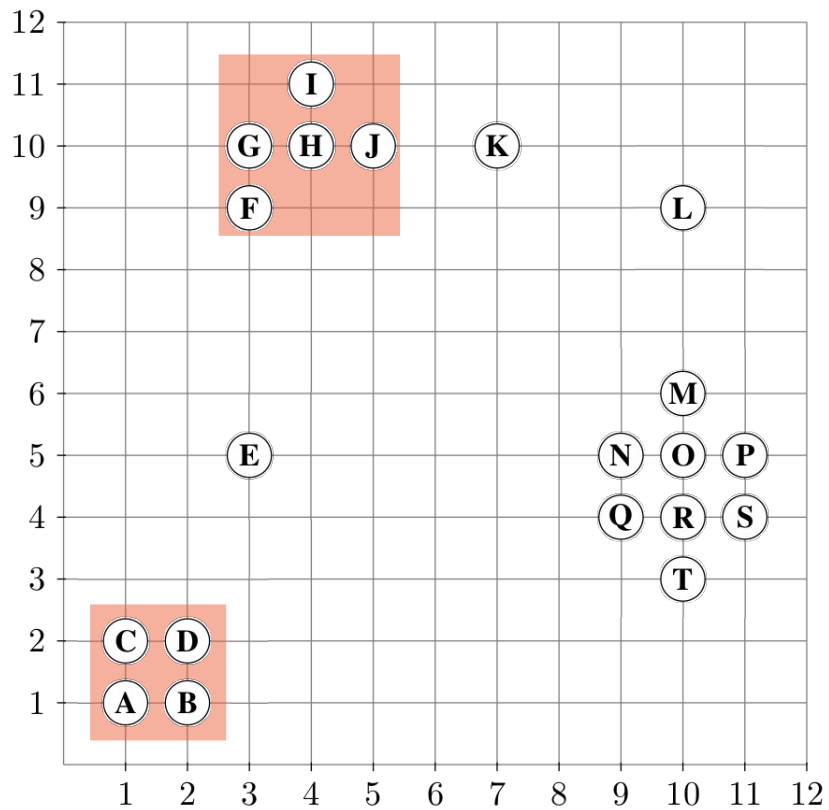
Seeds

J

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3:



Punkt: **J**

While Seeds != empty do
 RQ (J, 1.1) = {H, J}

H.Clld = 2. fertig

J.Clld = 2. fertig

Entferne J aus Seeds

Unclassified

K L M N O P Q R S T

Noise

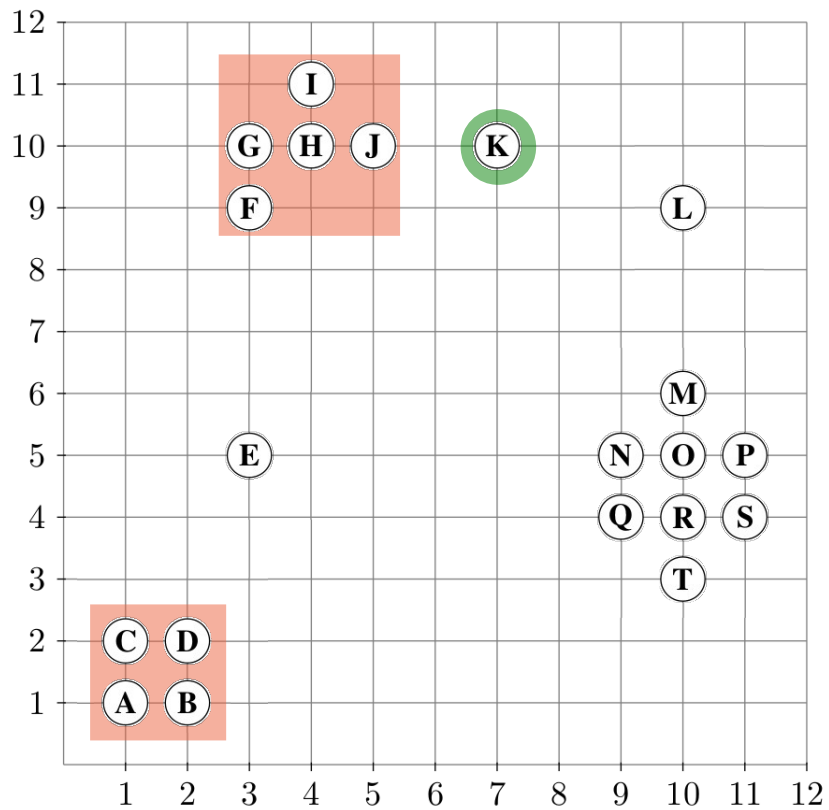
E

Seeds

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3:



Start: **K**

K.CId = Unclassified

ExpandiereCluster (DB, K, 3, 1.1, 3) = false

K.CId := Noise

Unclassified

L M N O P Q R S T

Noise

E K

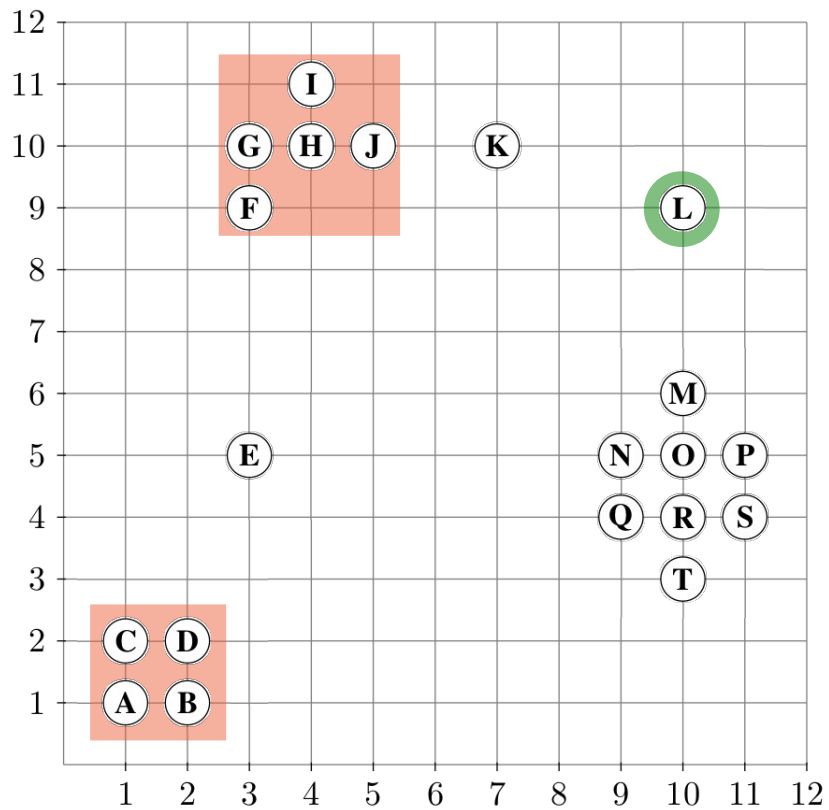
Seeds

K

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3:



Start: L

L.CId = Unclassified

ExpandiereCluster (DB, L, 3, 1.1, 3) = false

L.CId := Noise

Unclassified

M N O P Q R S T

Noise

E K L

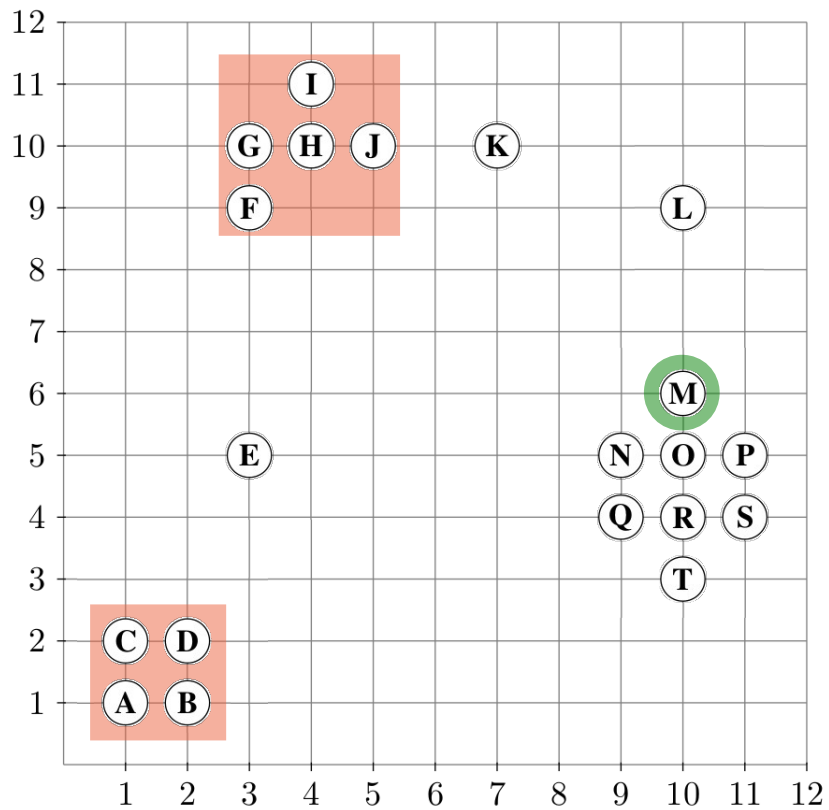
Seeds

L

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3:



Start: (M)

M.CIId = Unclassified

ExpandiereCluster (DB, M, 3, 1.1, 3)

RQ (M, 1.1) = {M, O} → false

M.CIId := Noise

Unclassified

(N) (O) (P) (Q) (R) (S) (T)

Noise

(E) (K) (L) (M)

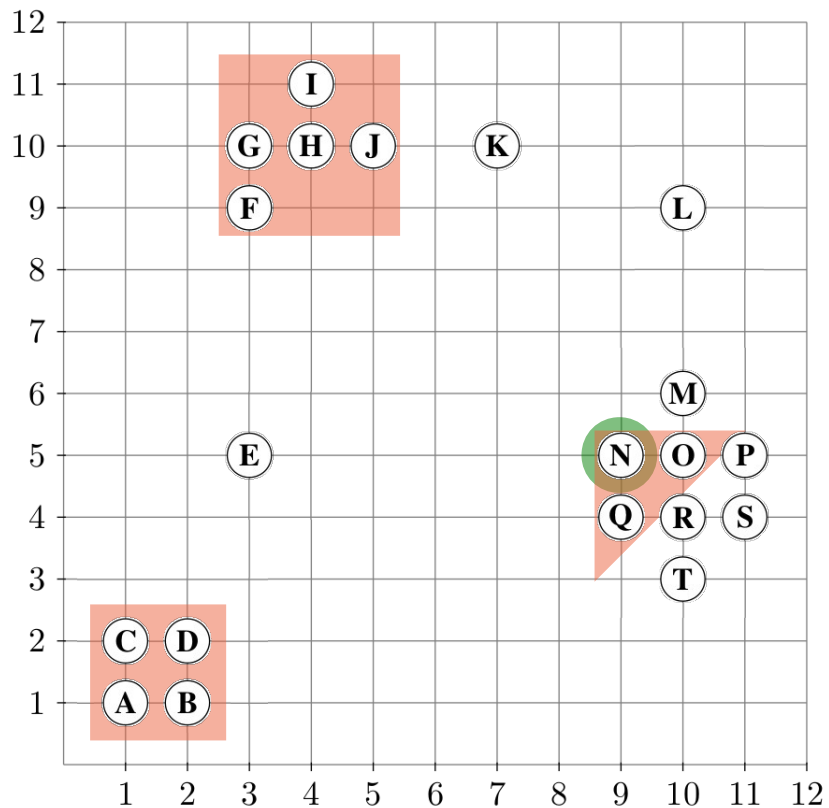
Seeds

(M) (O)

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3:



Start: **N** Cluster: **N** **O** **Q**

N.CId = Unclassified

ExpandiereCluster (DB, N, 3, 1.1, 3)
RQ (M, 1.1) = {N, O, Q}

Forall o in Seeds:
o.CId := ClusterId
Entferne N aus Seeds

Unclassified

P **R** **S** **T**

Noise

E **K** **L** **M**

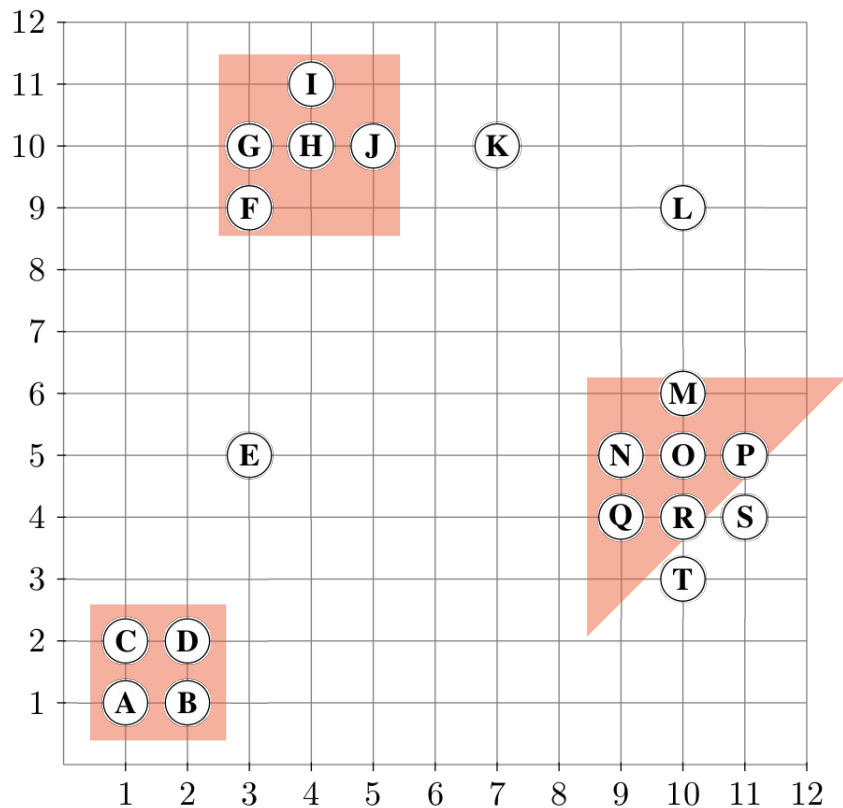
Seeds

O **Q**

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: N, O, Q



Punkt: **O**

While Seeds != empty do
 RQ (O, 1.1) = {M, N, O, P, R}

M.ClId = Noise → M.ClId := 3

N. ClId = 3. fertig

O.ClId = 3. fertig

P.ClId = Unclassified → Seeds += P, P.ClId := 3

R.ClId = Unclassified → Seeds += R, R.ClId := 3

Entferne O aus Seeds

Unclassified

S T

Noise

E K L

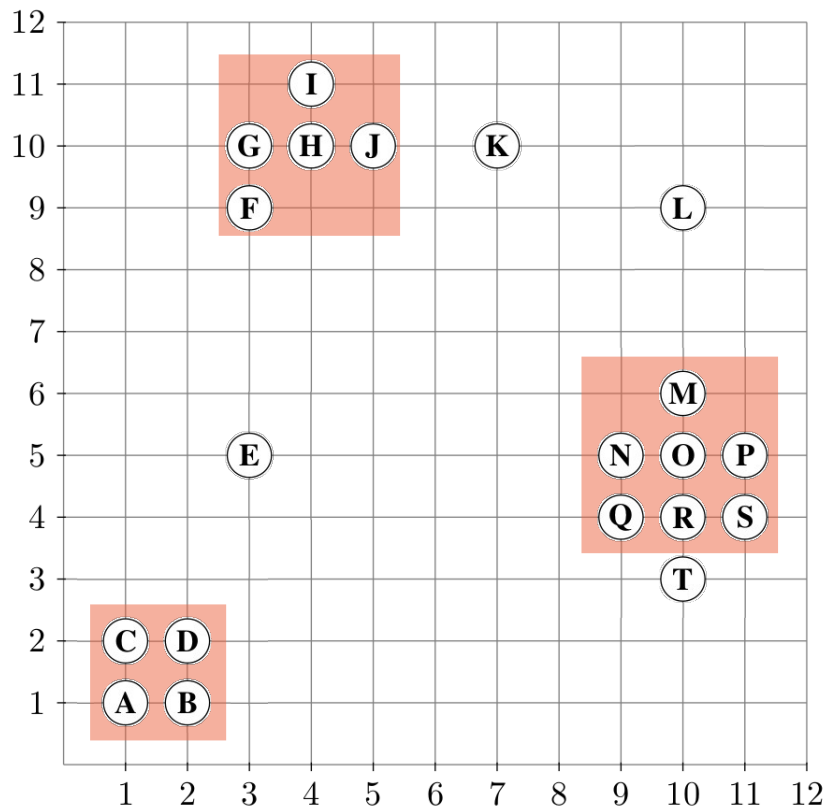
Seeds

P Q R

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R



Punkt: **P**

While Seeds != empty do
 RQ (P, 1.1) = {O, P, S}

O.Clld = 3. fertig

P.Clld = 3. fertig

S.Clld = Unclassified → Seeds += S, S.Clld := 3

Entferne P aus Seeds

Unclassified

T

Noise

E K L

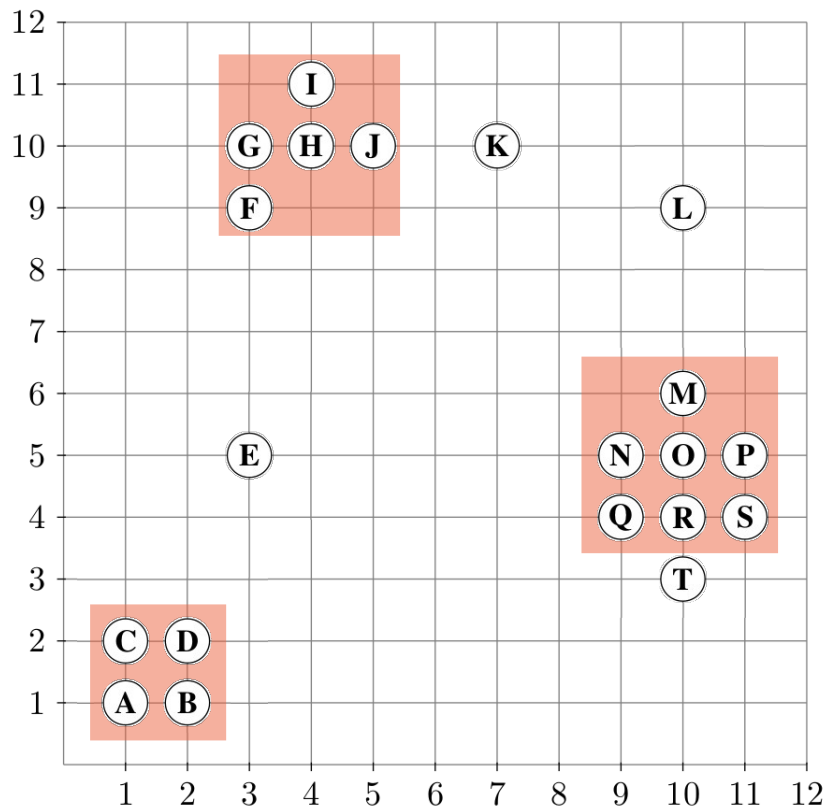
Seeds

Q R S

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R, S



Punkt: **Q**

While Seeds != empty do
 RQ (Q, 1.1) = {N, Q, R}

N.CIId = 3. fertig
 Q. CIId = 3. fertig
 R.CIId = 3. fertig

Entferne Q aus Seeds

Unclassified

T

Noise

E K L

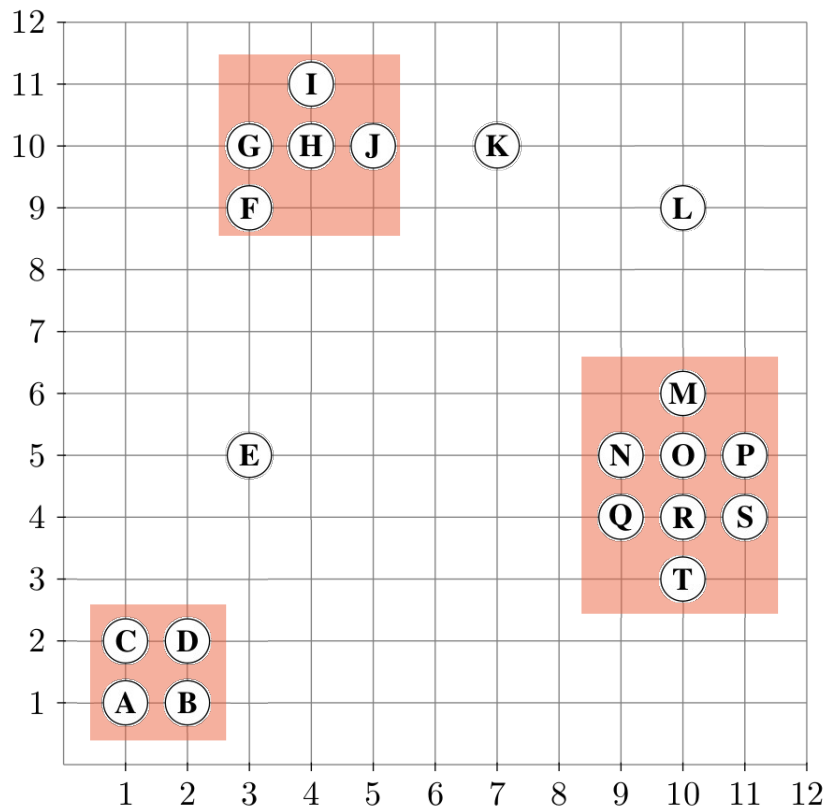
Seeds

R S

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R, S



Punkt: **R**

While Seeds != empty do
 RQ (R, 1.1) = {O, Q, R, S, T}

O.Clld = 3. fertig

Q. Clld = 3. fertig

R.Clld = 3. fertig

S.Clld = 3. fertig

T.Clld = Unclassified → Seeds += T; T.Clld := 3

Entferne R aus Seeds

Unclassified

Noise

E **K** **L**

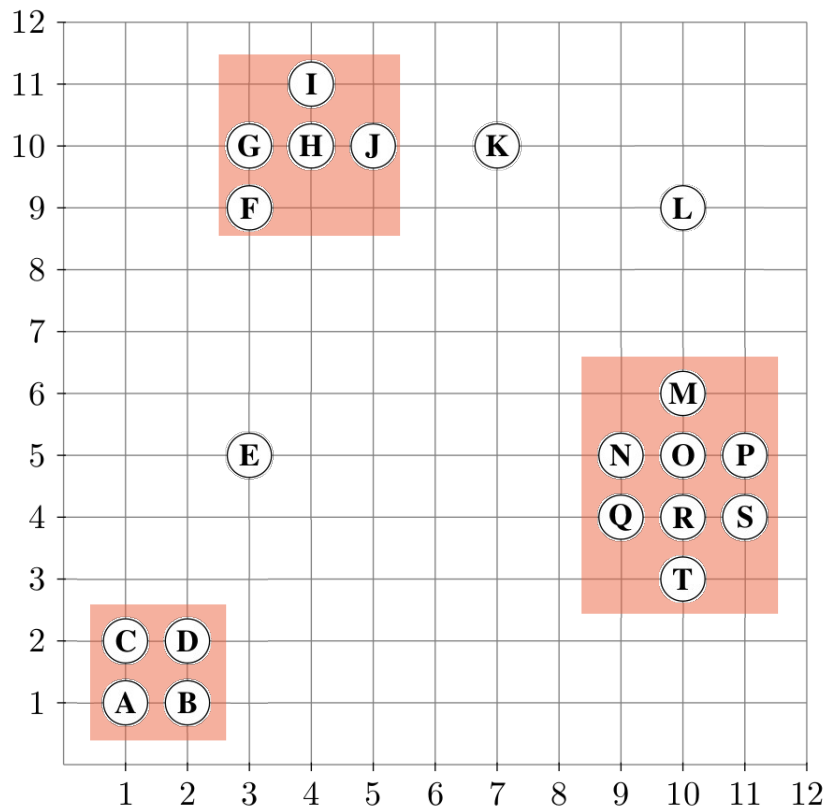
Seeds

S **T**

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R, S, T



Punkt: (S)

While Seeds != empty do
 RQ (S, 1.1) = {P, R, S}

P.ClId = 3. fertig
 R. ClId = 3. fertig
 S.ClId = 3. fertig

Entferne S aus Seeds

Unclassified

Noise

(E) (K) (L)

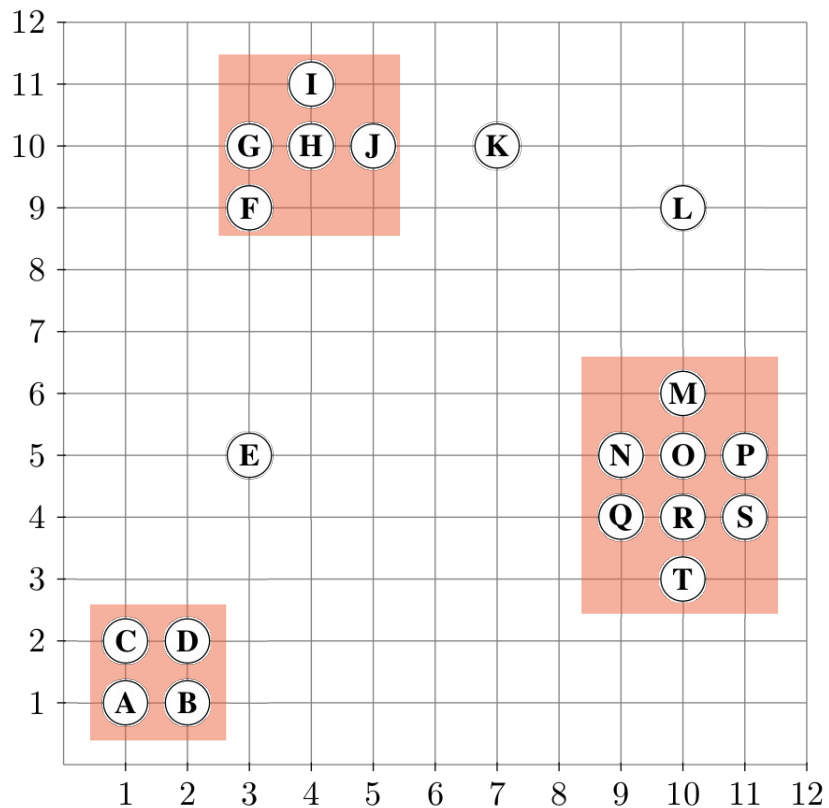
Seeds

(T)

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R, S, T



Punkt: **T**

While Seeds != empty do
 RQ (T, 1.1) = {R, T}

R.Clld = 3. fertig
 T. Clld = 3. fertig

Entferne T aus Seeds

Unclassified

Noise

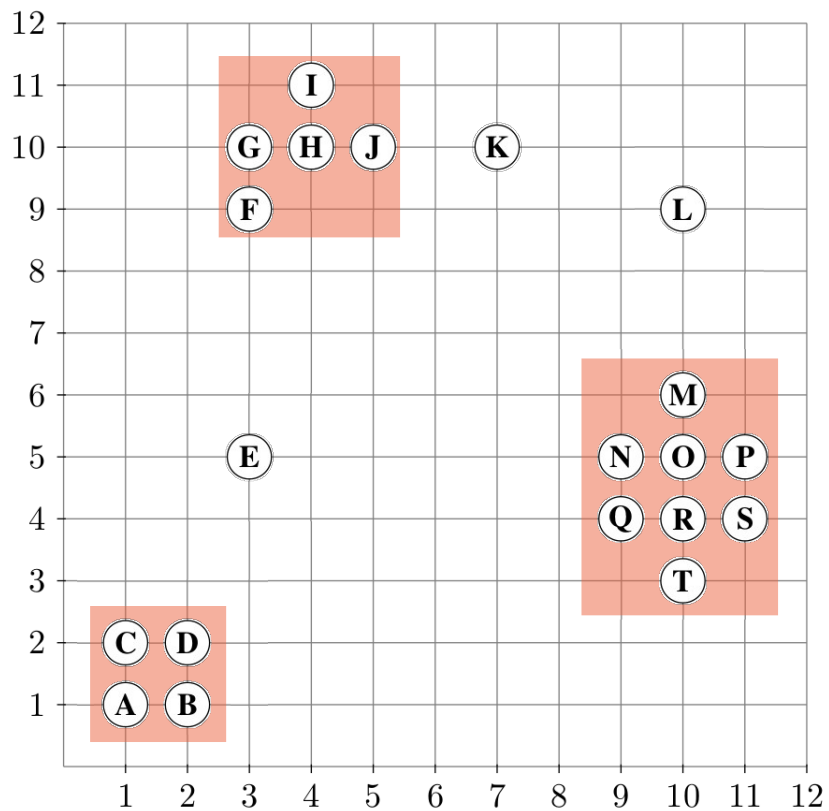
E **K** **L**

Seeds

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R, S, T



Unclassified

Noise

E K L

Seeds

Cluster 1: A, B, C, D

Cluster 2: F, G, H, I, J

Cluster 3: M, N, O, P, Q, R, S, T