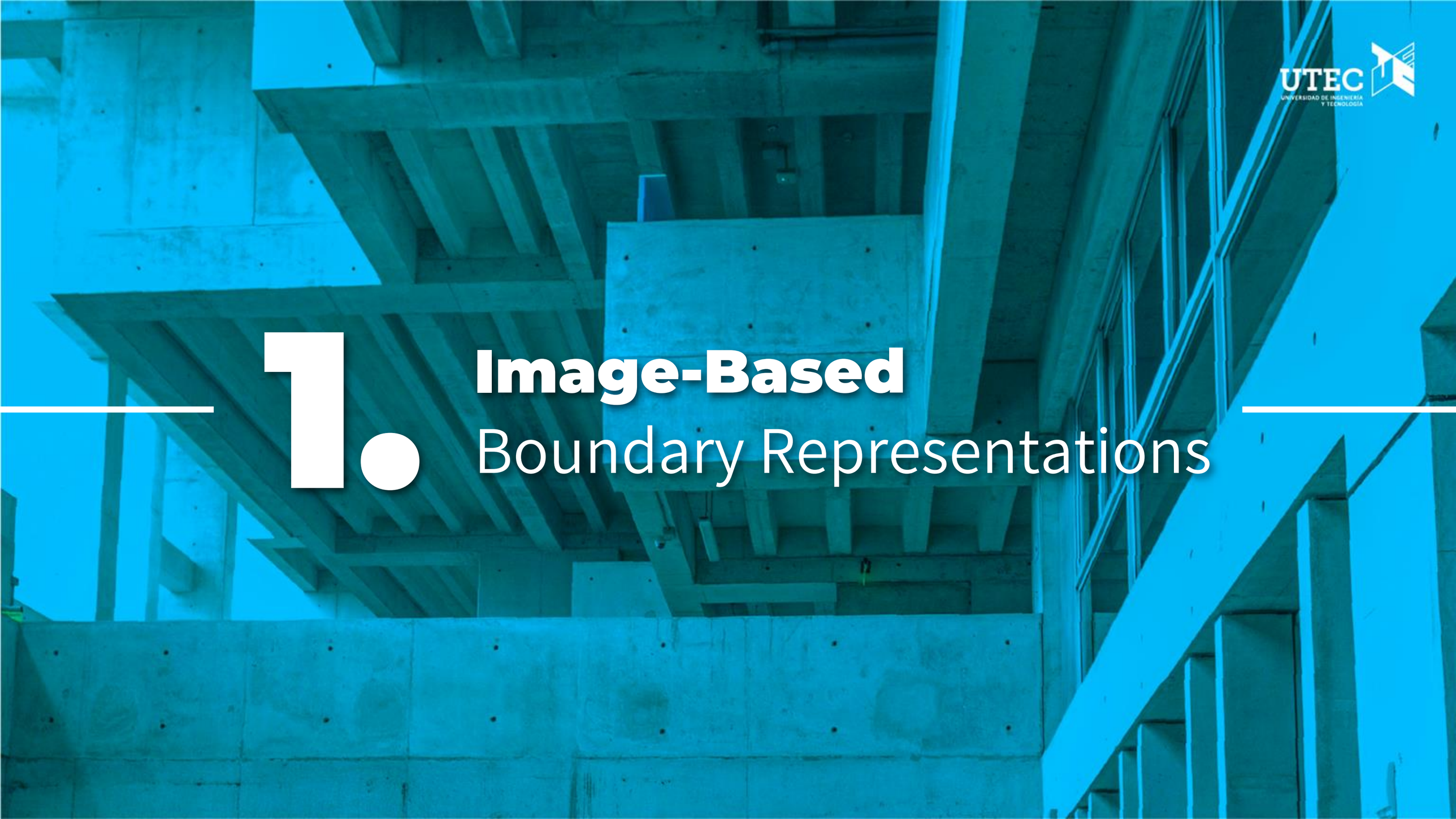
UTEC
UNIVERSIDAD DE INGENIERÍA Y TECNOLOGÍA

Sesión 9.2: Image-Based Boundary Representations

CS3102 EDA

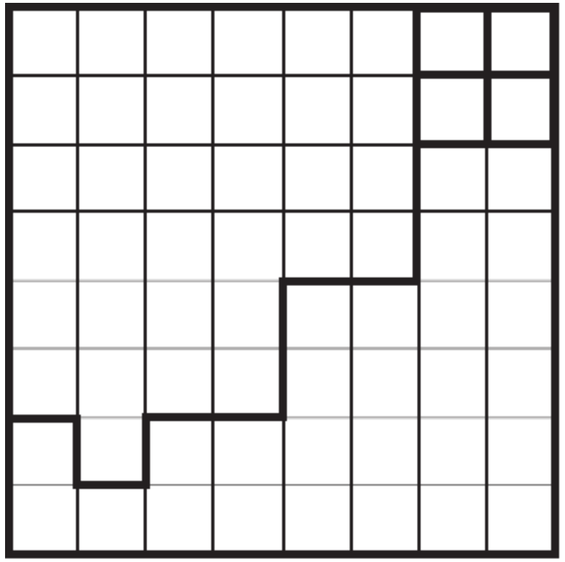
Índice

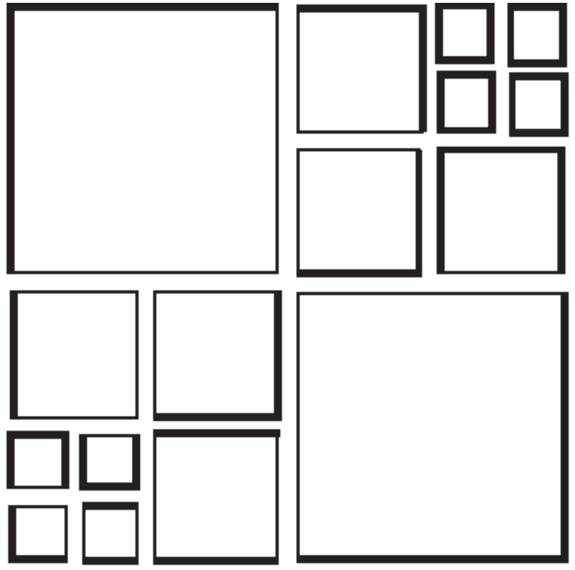


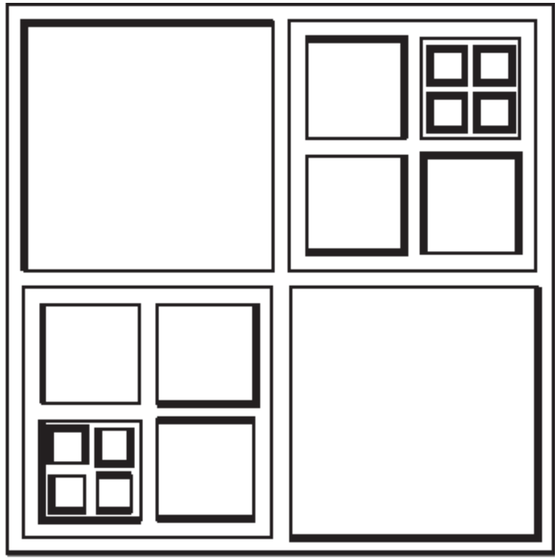
1. Image-Based Boundary Representations

2. Line Quadtree

Line *Quadtree*

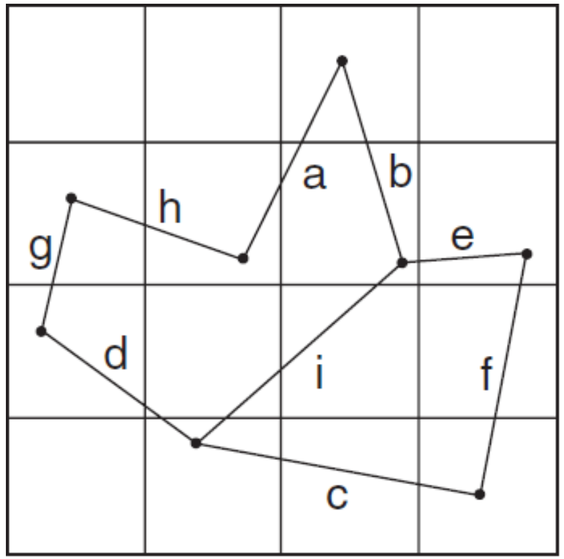


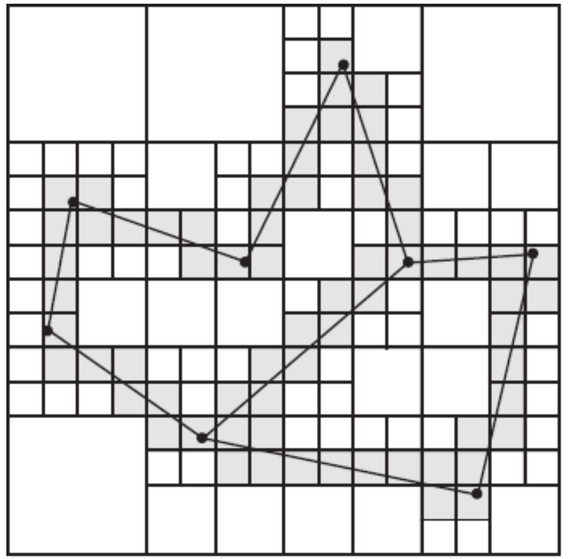




3. MX Quadtree

MX *Quadtree*





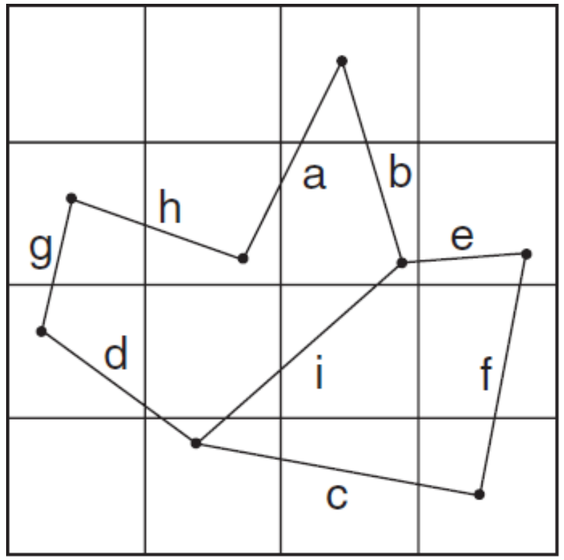
MX *Quadtree*

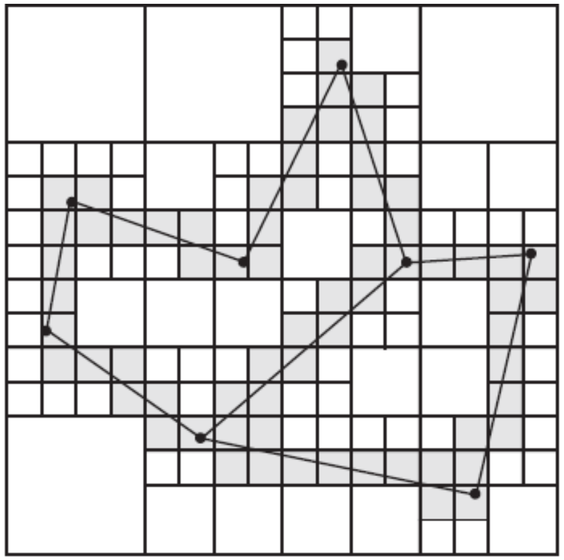
Quadtree Complexity Theorem

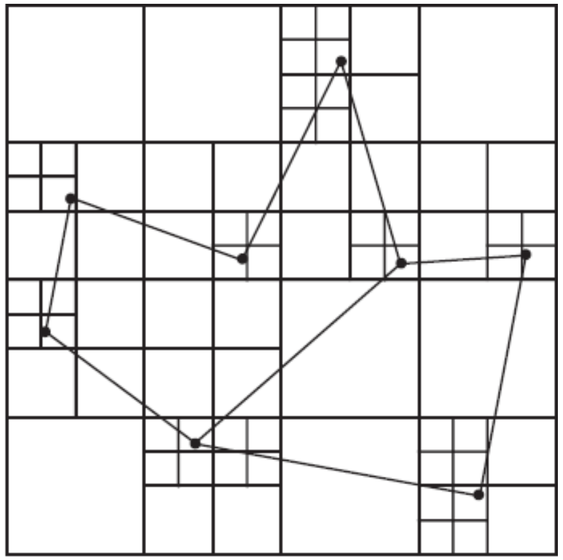
El *quadtree* correspondiente a un polígono de perímetro p incrustado en una imagen de $2^q \times 2^q$ tiene un máximo de $24 \cdot q - 19 + 24 \cdot p$ nodos.

4. Edge Quadtree

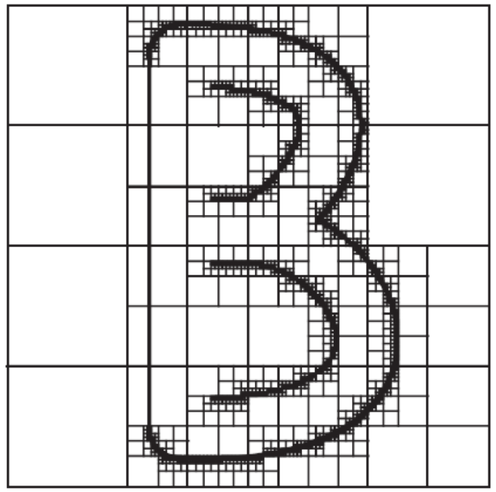
Edge *Quadtree*

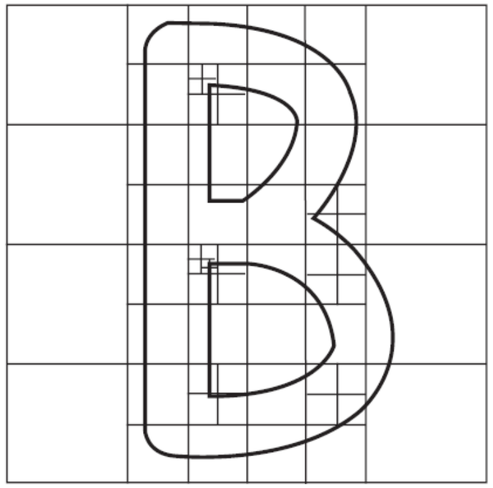


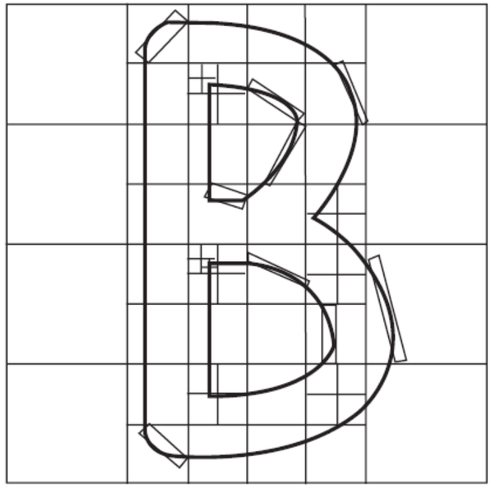




Edge *Quadtree*

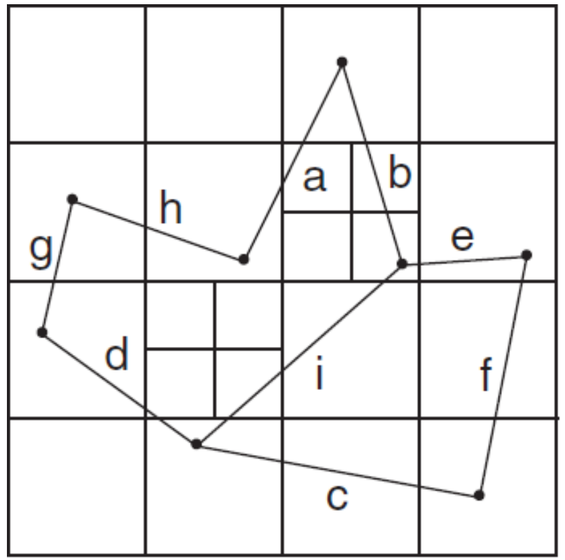






5. PM Quadtree

PM *Quadtree*

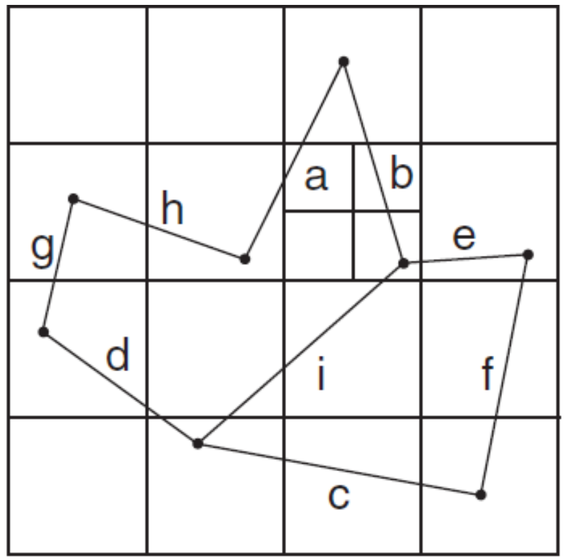


PM_1 Quadtree

Regla de partición

La partición se produce siempre que un bloque contenga más de un segmento de línea, a menos que los segmentos de línea incidan todos en el mismo vértice, que también se encuentra en el mismo bloque.

PM *Quadtree*

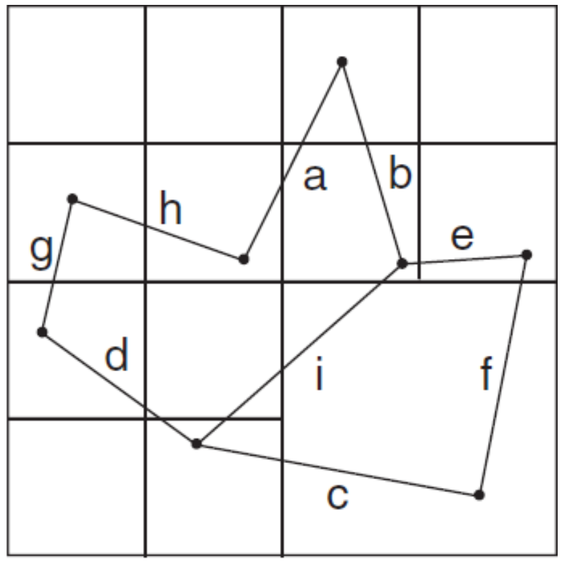


PM_2 Quadtree

Regla de partición

La partición se produce siempre que un bloque contenga más de un segmento de línea, a menos que los segmentos de línea incidan todos en el mismo vértice, independientemente de su ubicación.

PM *Quadtree*



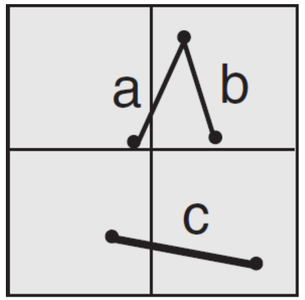
PM_3 Quadtree

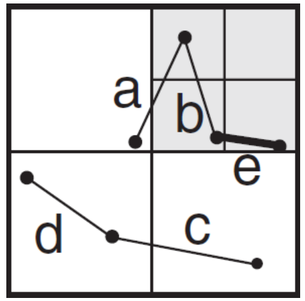
Regla de partición

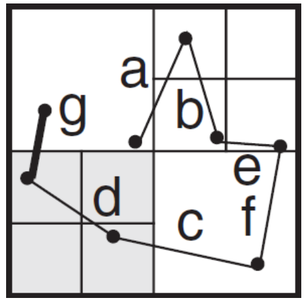
La partición se produce cuando un bloque contiene más de un vértice.

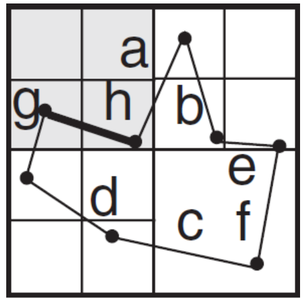
7. PMR QuadTree

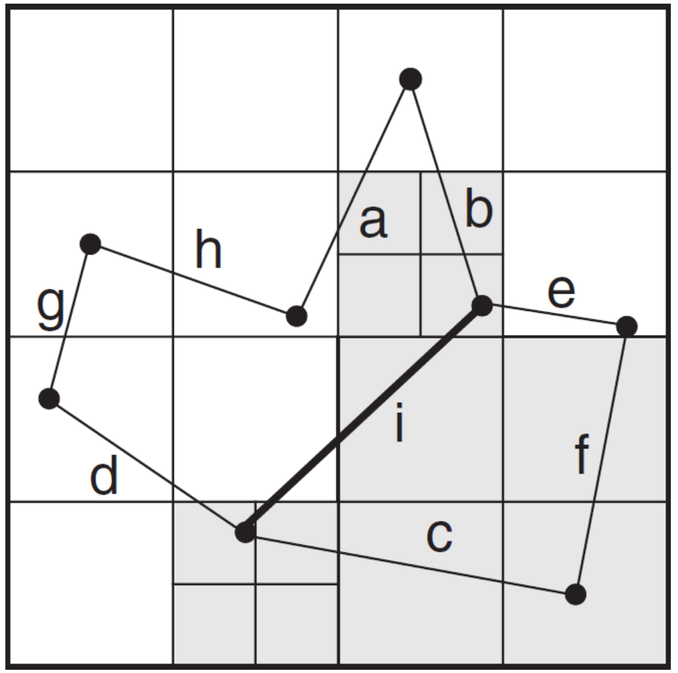
PMR *Quadtree*





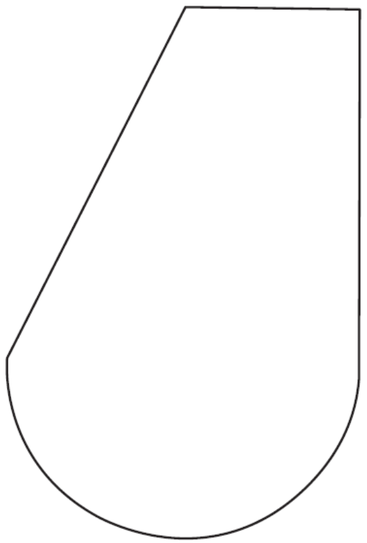




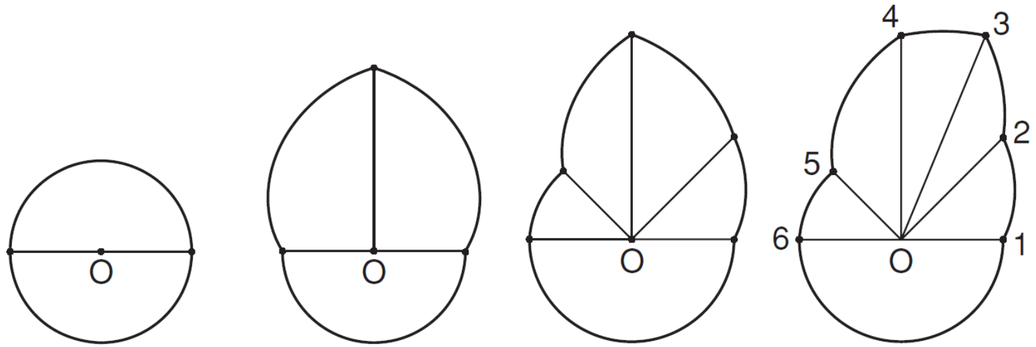


6. Sector Tree

Sector *Tree*

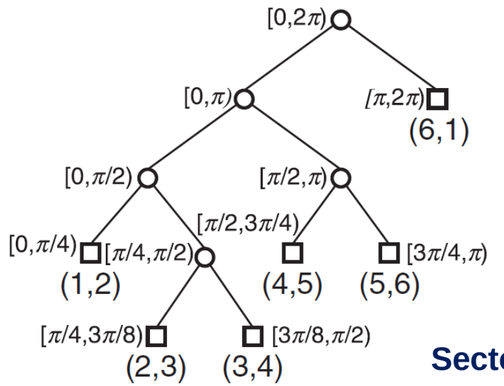


Objeto convexo



Aproximaciones sucesivas del objeto

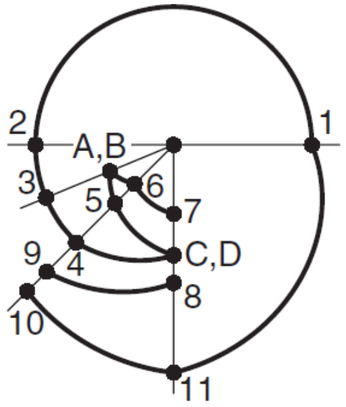
Note que aproximamos mediante intervalos $\pi/2$, $\pi/4$, $\pi/8$



Sector Tree

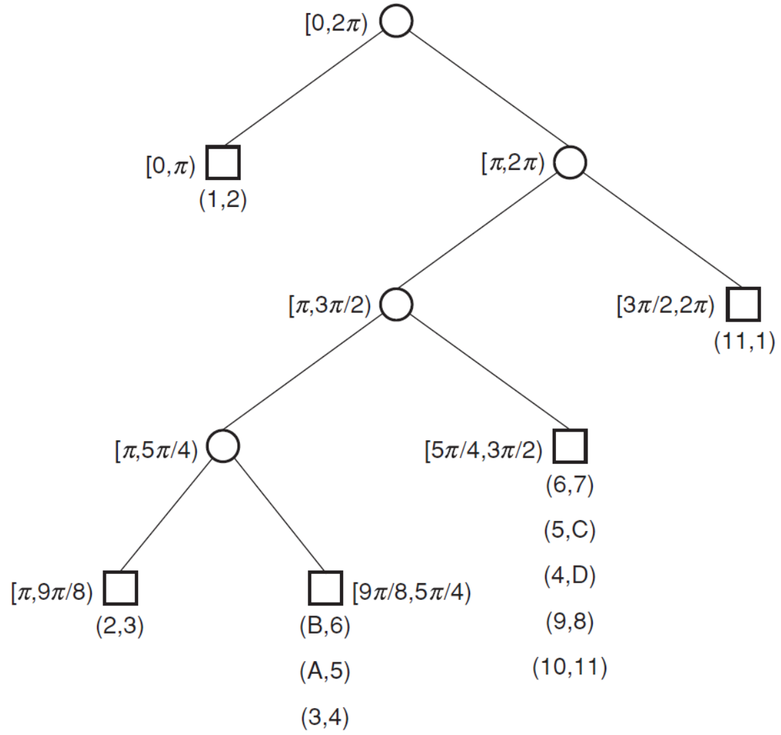
Sector *Tree*

Objeto no convexo



Descomposición

Comparación



Sector Tree

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