

Points on a Line

- Sketch an $O(n \log n)$ time algorithm to find closest points on a line, given an array that contains the x –coordinate of each point.

Points on a Line

ClosestPtsLine

Input : Array A of point positions

Output: Shortest distance between any
two points

```
1 Sort;
2 minDist= $\infty$ ;
3 for  $i=1$  to  $length(A)-1$  do
4   | if  $A[i+1] - A[i] < minDist$  then
5   |   | minDist= $A[i+1] - A[i]$ 
6   | end
7 end
```