```
Starting 24 point test
Calculating with integers
Scale: 500
274 296
357 422
301 428
272 423
211 311
322 192
218 148
445 28
481 136
191 238
395 406
264 239
284 196
462 418
35 168
43 324
10 184
416 478
389 70
435 435
489 236
399 400
230 260
390 339

Sorted points
0 10 184
1 35 168
2 43 324
3 191 238
4 211 311
5 218 148
6 230 260
7 264 239
8 272 423
9 274 296
10 284 196
11 301 428
12 322 192
13 357 422
14 389 70
15 390 339
16 395 406
17 399 400
18 416 478
19 435 435
20 445 28
21 462 418
22 481 136
23 489 236

nSites: 24
At x=10 adding p#0
BF tree at end of point added:
R---- H1 n#0  nil    nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,nil)

At x=35 adding p#1 into n#0
BF tree at end of point added:
R---- H2 n#1  prior n#0  next n#2
    L---- H1 n#0  -  nil    next n#1
    R---- H1 n#2  prior n#1  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,168) #1(p1;168,168) #2(p0;168,nil)

At x=43 adding p#2 into n#2
At x=43  Adding: e#0, X=149 for n#2; prior n#1  next n#3
BF tree at end of point added:
R---- H3 n#1  prior n#0  next n#2
    L---- H1 n#0  -  nil    next n#1
    R---- H2 n#3  prior n#2  next n#4
        L---- H1 n#2  prior n#1  next n#3
        R---- H1 n#4  prior n#3  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,144) #1(p1;144,182) #2(p0;182,324)
#3(p2;324,324) #4(p0;324,nil)
Priority queue:
R----H1 e#0 X=149; n#2

At x=149 Removing: e#0 n#2
At x=191 adding p#3 into n#1
At x=191  Adding: e#1, X=191 for n#6; prior n#5  next n#3
BF tree at end of point added:
R---- H3 n#5  prior n#1  next n#6
    L---- H2 n#1  prior n#0  next n#5
    |    L---- H1 n#0  -  nil    next n#1
    R---- H2 n#3  prior n#6  next n#4

L---- H1 n#6  prior n#5  next n#3
R---- H1 n#4  prior n#3  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-131) #1(p1;-131,238) #5(p3;238,238)
#6(p1;238,243) #3(p2;243,1665) #4(p0;1665,nil)
Priority queue:
R----H1 e#1 X=191; n#6

At x=191 Removing: e#1 n#6
At x=211 adding p#4 into n#3
At x=211  Adding: e#2, X=212 for n#3; prior n#5  next n#7
BF tree at end of point added:
R---- H4 n#5  prior n#1  next n#3
    L---- H2 n#1  prior n#0  next n#5
    |    L---- H1 n#0  -  nil    next n#1
    R---- H3 n#8  prior n#7  next n#4
        L---- H2 n#3  prior n#5  next n#7
        |    R---- H1 n#7  prior n#3  next n#8
        R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-168) #1(p1;-168,182) #5(p3;182,293)
#3(p2;293,311) #7(p4;311,311) #8(p2;311,1838)
#4(p0;1838,nil)
Priority queue:
R----H1 e#2 X=212; n#3

At x=212 Removing: e#2 n#3
At x=218 adding p#5 into n#1
At x=218  Adding: e#3, X=221 for n#10; prior n#9  next
n#5
BF tree at end of point added:
R---- H4 n#5  prior n#10  next n#7
    L---- H3 n#1  prior n#0  next n#9
    |    L---- H1 n#0  -  nil    next n#1
    |    R---- H2 n#9  prior n#1  next n#10
    |        R---- H1 n#10  prior n#9  next n#5
    R---- H2 n#8  prior n#7  next n#4
        L---- H1 n#7  prior n#5  next n#8
        R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-181) #1(p1;-181,148) #9(p5;148,148)
#10(p1;148,173) #5(p3;173,285) #7(p4;285,346)
#8(p2;346,1898) #4(p0;1898,nil)
Priority queue:
R----H1 e#3 X=221; n#10

At x=221 Removing: e#3 n#10
At x=221  Adding: e#4, X=499 for n#5; prior n#9  next n#7
At x=230 adding p#6 into n#5
At x=230  Invalid: e#4 n#5
At x=230  Adding: e#5, X=294 for n#5; prior n#9  next
n#11
At x=230  Adding: e#6, X=234 for n#12; prior n#11  next
n#7
BF tree at end of point added:
R---- H4 n#5  prior n#9  next n#11
    L---- H2 n#1  prior n#0  next n#9
    |    L---- H1 n#0  -  nil    next n#1
    |    R---- H1 n#9  prior n#1  next n#5
    R---- H3 n#8  prior n#7  next n#4
        L---- H2 n#12  prior n#11  next n#7
        |    L---- H1 n#11  prior n#5  next n#12
        |    R---- H1 n#7  prior n#12  next n#8
        R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-203) #1(p1;-203,98) #9(p5;98,183)
#5(p3;183,260) #11(p6;260,260) #12(p3;260,277)
#7(p4;277,369) #8(p2;369,2001) #4(p0;2001,nil)
Priority queue:
R----H2 e#5 X=294; n#5
    L----H1 e#6 X=234; n#12

At x=234 Removing: e#6 n#12
At x=264 adding p#7 into n#11
At x=264  Adding: e#7, X=269 for n#11; prior n#5  next
n#13
At x=264  Adding: e#8, X=357 for n#14; prior n#13  next
n#7
BF tree at end of point added:
R---- H4 n#5  prior n#9  next n#11
    L---- H2 n#1  prior n#0  next n#9
    |    L---- H1 n#0  -  nil    next n#1
    |    R---- H1 n#9  prior n#1  next n#5
    R---- H3 n#8  prior n#7  next n#4
        L---- H2 n#13  prior n#11  next n#14
        |    L---- H1 n#11  prior n#5  next n#13
        |    R---- H2 n#7  prior n#14  next n#8
        |        L---- H1 n#14  prior n#13  next n#7
        R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
```

#0(p0;nil,-265) #1(p1;-265,40) #9(p5;40,196)
#5(p3;196,222) #11(p6;222,239) #13(p7;239,239)
#14(p6;239,290) #7(p4;290,415) #8(p2;415,2294)
#4(p0;2294,nil)
Priority queue:
R----H2 e#5 X=294; n#5
     L----H1 e#7 X=269; n#11
     R----H1 e#8 X=357; n#14

At x=269 Removing: e#7 n#11
At x=269 Invalid: e#5 n#5
At x=269 Adding: e#9, X=281 for n#5; prior n#9 next
n#13
At x=272 adding p#8 into n#7
At x=272 Adding: e#10, X=433 for n#7; prior n#14 next
n#15
At x=272 Adding: e#11, X=272 for n#16; prior n#15 next
n#8
BF tree at end of point added:
R---- H4 n#5 prior n#9 next n#13
    L---- H2 n#1 prior n#0 next n#9
    | L---- H1 n#0 - nil   next n#1
    | R---- H1 n#9 prior n#1 next n#5
    R---- H3 n#15 prior n#7 next n#16
        L---- H2 n#14 prior n#13 next n#7
        | L---- H1 n#13 prior n#5 next n#14
        | R---- H1 n#7 prior n#14 next n#15
        R---- H2 n#8 prior n#16 next n#4
            L---- H1 n#16 prior n#15 next n#8
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-280) #1(p1;-280,28) #9(p5;28,198)
#5(p3;198,214) #13(p7;214,256) #14(p6;256,292)
#7(p4;292,423) #15(p8;423,423) #16(p4;423,425)
#8(p2;425,2363) #4(p0;2363,nil)
Priority queue:
R----H3 e#8 X=357; n#14
    L----H2 e#9 X=281; n#5
    | L----H1 e#11 X=272; n#16
    R----H1 e#10 X=433; n#7

At x=272 Removing: e#11 n#16
At x=274 adding p#9 into n#7
At x=274 Invalid: e#10 n#7
At x=274 Adding: e#12, X=274 for n#7; prior n#14 next
n#17
At x=274 Adding: e#13, X=322 for n#18; prior n#17 next
n#15
BF tree at end of point added:
R---- H4 n#14 prior n#13 next n#7
    L---- H3 n#5 prior n#9 next n#13
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#5
    | R---- H1 n#13 prior n#5 next n#14
    R---- H3 n#15 prior n#18 next n#8
        L---- H2 n#17 prior n#7 next n#18
        | L---- H1 n#7 prior n#14 next n#17
        | R---- H1 n#18 prior n#17 next n#15
        R---- H2 n#8 prior n#15 next n#4
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-283) #1(p1;-283,26) #9(p5;26,199)
#5(p3;199,210) #13(p7;210,257) #14(p6;257,293)
#7(p4;293,296) #17(p9;296,296) #18(p4;296,403)
#15(p8;403,447) #8(p2;447,2380) #4(p0;2380,nil)
Priority queue:
R----H3 e#9 X=281; n#5
     L----H1 e#12 X=274; n#7
     R----H2 e#8 X=357; n#14
            L----H1 e#13 X=322; n#18

At x=274 Removing: e#12 n#7
At x=274 Invalid: e#8 n#14
At x=274 Adding: e#14, X=290 for n#14; prior n#13 next
n#17
At x=281 Removing: e#9 n#5
At x=284 adding p#10 into n#9
At x=284 Adding: e#15, X=284 for n#20; prior n#19 next
n#13
BF tree at end of point added:
R---- H4 n#14 prior n#13 next n#17
    L---- H3 n#1 prior n#0 next n#9
    | L---- H1 n#0 - nil   next n#1
    | R---- H2 n#19 prior n#9 next n#20
    | L---- H1 n#9 prior n#1 next n#19
    | R---- H2 n#13 prior n#20 next n#14
    | L---- H1 n#20 prior n#19 next n#13
    R---- H3 n#15 prior n#18 next n#8
        L---- H2 n#17 prior n#14 next n#18
        | R---- H1 n#18 prior n#17 next n#15

R---- H2 n#8 prior n#15 next n#4
        R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-301) #1(p1;-301,12) #9(p5;12,196)
#19(p10;196,196) #20(p5;196,198) #13(p7;198,265)
#14(p6;265,274) #17(p9;274,321) #18(p4;321,383)
#15(p8;383,487) #8(p2;487,2466) #4(p0;2466,nil)
Priority queue:
R----H2 e#14 X=290; n#14
     L----H1 e#15 X=284; n#20
     R----H1 e#13 X=322; n#18

At x=284 Removing: e#15 n#20
At x=290 Removing: e#14 n#14
At x=290 Adding: e#16, X=439 for n#13; prior n#19 next
n#17
At x=301 adding p#11 into n#15
At x=301 Adding: e#17, X=396 for n#15; prior n#18 next
n#21
BF tree at end of point added:
R---- H4 n#17 prior n#13 next n#18
    L---- H3 n#1 prior n#0 next n#9
    | L---- H1 n#0 - nil   next n#1
    | R---- H2 n#19 prior n#9 next n#13
    | L---- H1 n#9 prior n#1 next n#19
    | R---- H1 n#13 prior n#19 next n#17
    R---- H3 n#21 prior n#15 next n#22
        L---- H2 n#15 prior n#18 next n#21
        | L---- H1 n#17 prior n#17 next n#15
        R---- H2 n#8 prior n#22 next n#4
            L---- H1 n#22 prior n#21 next n#8
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-333) #1(p1;-333,-11) #9(p5;-11,162)
#19(p10;162,219) #13(p7;219,267) #17(p9;267,340)
#18(p4;340,369) #15(p8;369,428) #21(p11;428,428)
#22(p8;428,530) #8(p2;530,2613) #4(p0;2613,nil)
Priority queue:
R----H2 e#17 X=396; n#15
     L----H1 e#13 X=322; n#18
     R----H1 e#16 X=439; n#13

At x=322 Removing: e#13 n#18
At x=322 Invalid: e#17 n#15
At x=322 Adding: e#18, X=366 for n#15; prior n#17 next
n#21
At x=322 adding p#12 into n#19
At x=322 Adding: e#19, X=379 for n#19; prior n#9 next
n#23
At x=322 Adding: e#20, X=351 for n#24; prior n#23 next
n#13
BF tree at end of point added:
R---- H4 n#17 prior n#13 next n#15
    L---- H3 n#19 prior n#9 next n#23
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#19
    | R---- H2 n#24 prior n#23 next n#13
    | L---- H1 n#23 prior n#19 next n#24
    | R---- H1 n#13 prior n#24 next n#17
    R---- H3 n#21 prior n#15 next n#22
        L---- H1 n#15 prior n#17 next n#21
        R---- H2 n#8 prior n#22 next n#4
            L---- H1 n#22 prior n#21 next n#8
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-371) #1(p1;-371,-37) #9(p5;-37,146)
#19(p10;146,192) #23(p12;192,192) #24(p10;192,226)
#13(p7;226,264) #17(p9;264,359) #15(p8;359,399)
#21(p11;399,465) #22(p8;465,573) #8(p2;573,2794)
#4(p0;2794,nil)
Priority queue:
R----H3 e#19 X=379; n#19
     L----H2 e#18 X=366; n#15
     | L----H1 e#20 X=351; n#24
     R----H1 e#16 X=439; n#13

At x=351 Removing: e#20 n#24
At x=351 Invalid: e#16 n#13
At x=351 Adding: e#21, X=392 for n#13; prior n#23 next
n#17
At x=357 adding p#13 into n#21
At x=357 Adding: e#22, X=468 for n#21; prior n#15 next
n#25
BF tree at end of point added:
R---- H4 n#17 prior n#13 next n#15
    L---- H3 n#19 prior n#9 next n#23
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#19
    | R---- H2 n#13 prior n#23 next n#17

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        |       L---- H1 n#23  prior n#19  next n#13
      R---- H3 n#26  prior n#25  next n#22
        L---- H2 n#21  prior n#15  next n#25
        |    L---- H1 n#15  prior n#17  next n#21
        |    R---- H1 n#25  prior n#21  next n#26
        R---- H2 n#8  prior n#22  next n#4
            L---- H1 n#22  prior n#26  next n#8
            R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-435) #1(p1;-435,-80) #9(p5;-80,125)
#19(p10;125,137) #23(p12;137,237) #13(p7;237,261)
#17(p9;261,360) #15(p8;360,368) #21(p11;368,422)
#25(p13;422,422) #26(p11;422,508) #22(p8;508,638)
#8(p2;638,3095) #4(p0;3095,nil)
Priority queue:
R----H3 e#19 X=379; n#19
     L----H1 e#18 X=366; n#15
     R----H2 e#21 X=392; n#13
          R----H1 e#22 X=468; n#21


At x=366 Removing: e#18 n#15
At x=366  Adding: e#23, X=7074 for n#17; prior n#13  next
n#21
At x=366  Invalid: e#22 n#21
At x=366  Adding: e#24, X=397 for n#21; prior n#17  next
n#25
At x=379 Removing: e#19 n#19
At x=389 adding p#14 into n#9
At x=389  Adding: e#25, X=649 for n#9; prior n#1  next
n#27
At x=389  Adding: e#26, X=394 for n#28; prior n#27  next
n#23
BF tree at end of point added:
R---- H4 n#17  prior n#13  next n#21
    L---- H3 n#27  prior n#9  next n#28
    |    L---- H2 n#1  prior n#0  next n#9
    |    |    L---- H1 n#0  -  nil    next n#1
    |    |    R---- H1 n#9  prior n#1  next n#27
    |    R---- H2 n#23  prior n#28  next n#13
    |         L---- H1 n#28  prior n#27  next n#23
    |         R---- H1 n#13  prior n#23  next n#17
    R---- H3 n#26  prior n#25  next n#22
         L---- H2 n#21  prior n#17  next n#25
         |    R---- H1 n#25  prior n#21  next n#26
         R---- H2 n#8  prior n#22  next n#4
             L---- H1 n#22  prior n#26  next n#8
             R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-493) #1(p1;-493,-118) #9(p5;-118,70)
#27(p14;70,70) #28(p5;70,104) #23(p12;104,255)
#13(p7;255,258) #17(p9;258,356) #21(p11;356,365)
#25(p13;365,472) #26(p11;472,546) #22(p8;546,693)
#8(p2;693,3370) #4(p0;3370,nil)
Priority queue:
R----H3 e#24 X=397; n#21
     L----H2 e#21 X=392; n#13
     |    R----H1 e#26 X=394; n#28
     R----H2 e#23 X=7074; n#17
          L----H1 e#25 X=649; n#9


At x=390 adding p#15 into n#17
At x=390  Invalid: e#23 n#17
At x=390  Adding: e#27, X=449 for n#17; prior n#13  next
n#29
At x=390  Adding: e#28, X=392 for n#30; prior n#29  next
n#21
BF tree at end of point added:
R---- H5 n#17  prior n#13  next n#29
    L---- H3 n#27  prior n#9  next n#28
    |    L---- H2 n#1  prior n#0  next n#9
    |    |    L---- H1 n#0  -  nil    next n#1
    |    |    R---- H1 n#9  prior n#1  next n#27
    |    R---- H2 n#23  prior n#28  next n#13
    |         L---- H1 n#28  prior n#27  next n#23
    |         R---- H1 n#13  prior n#23  next n#17
    R---- H4 n#26  prior n#25  next n#22
         L---- H3 n#21  prior n#30  next n#25
         |    L---- H2 n#29  prior n#17  next n#30
         |    |    R---- H1 n#30  prior n#29  next n#21
         |    R---- H1 n#25  prior n#21  next n#26
         R---- H2 n#8  prior n#22  next n#4
             L---- H1 n#22  prior n#26  next n#8
             R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-495) #1(p1;-495,-119) #9(p5;-119,55)
#27(p14;55,84) #28(p5;84,103) #23(p12;103,256)
#13(p7;256,258) #17(p9;258,339) #29(p15;339,339)
#30(p9;339,356) #21(p11;356,364) #25(p13;364,473)
#26(p11;473,547) #22(p8;547,694) #8(p2;694,3379)
#4(p0;3379,nil)
Priority queue:
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R----H3 e#24 X=397; n#21
    L----H2 e#21 X=392; n#13
    |    L----H1 e#28 X=392; n#30
    |    R----H1 e#26 X=394; n#28
    R----H2 e#25 X=649; n#9
         L----H1 e#27 X=449; n#17


At x=392 Removing: e#28 n#30
At x=392  Invalid: e#24 n#21
At x=392  Adding: e#29, X=393 for n#21; prior n#29  next
n#25
At x=392 Removing: e#21 n#13
At x=392  Invalid: e#27 n#17
At x=392  Adding: e#30, X=432 for n#17; prior n#23  next
n#29
At x=393 Removing: e#29 n#21
At x=394 Removing: e#26 n#28
At x=394  Adding: e#31, X=3765 for n#23; prior n#27  next
n#17
At x=395 adding p#16 into n#25
At x=395  Adding: e#32, X=407 for n#25; prior n#29  next
n#31
BF tree at end of point added:
R---- H5 n#17  prior n#23  next n#29
    L---- H3 n#27  prior n#9  next n#23
    |    L---- H2 n#1  prior n#0  next n#9
    |    |    L---- H1 n#0  -  nil    next n#1
    |    |    R---- H1 n#9  prior n#1  next n#27
    |    R---- H1 n#23  prior n#27  next n#17
    R---- H4 n#26  prior n#32  next n#22
         L---- H3 n#25  prior n#29  next n#31
         |    L---- H1 n#29  prior n#17  next n#25
         |    R---- H2 n#31  prior n#25  next n#32
         |         R---- H1 n#32  prior n#31  next n#26
         R---- H2 n#8  prior n#22  next n#4
             L---- H1 n#22  prior n#26  next n#8
             R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-504) #1(p1;-504,-125) #9(p5;-125,31)
#27(p14;31,103) #23(p12;103,258) #17(p9;258,315)
#29(p15;315,364) #25(p13;364,406) #31(p16;406,406)
#32(p13;406,478) #26(p11;478,553) #22(p8;553,703)
#8(p2;703,3422) #4(p0;3422,nil)
Priority queue:
R----H3 e#25 X=649; n#9
     L----H2 e#30 X=432; n#17
     |    L----H1 e#32 X=407; n#25
     R----H1 e#31 X=3765; n#23


At x=399 adding p#17 into n#31
At x=399  Adding: e#33, X=404 for n#31; prior n#25  next
n#33
BF tree at end of point added:
R---- H5 n#17  prior n#23  next n#29
    L---- H3 n#27  prior n#9  next n#23
    |    L---- H2 n#1  prior n#0  next n#9
    |    |    L---- H1 n#0  -  nil    next n#1
    |    |    R---- H1 n#9  prior n#1  next n#27
    |    R---- H1 n#23  prior n#27  next n#17
    R---- H4 n#26  prior n#32  next n#22
         L---- H3 n#31  prior n#25  next n#33
         |    L---- H2 n#25  prior n#29  next n#31
         |    |    L---- H1 n#29  prior n#17  next n#25
         |    R---- H2 n#34  prior n#33  next n#32
         |         L---- H1 n#33  prior n#31  next n#34
         |         R---- H1 n#32  prior n#34  next n#26
         R---- H2 n#8  prior n#22  next n#4
             L---- H1 n#22  prior n#26  next n#8
             R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-512) #1(p1;-512,-130) #9(p5;-130,19)
#27(p14;19,109) #23(p12;109,259) #17(p9;259,307)
#29(p15;307,369) #25(p13;369,390) #31(p16;390,400)
#33(p17;400,400) #34(p16;400,418) #32(p13;418,482)
#26(p11;482,558) #22(p8;558,710) #8(p2;710,3456)
#4(p0;3456,nil)
Priority queue:
R----H3 e#25 X=649; n#9
     L----H2 e#32 X=407; n#25
     |    L----H1 e#33 X=404; n#31
     |    R----H1 e#30 X=432; n#17
     R----H1 e#31 X=3765; n#23


At x=404 Removing: e#33 n#31
At x=404  Invalid: e#32 n#25
At x=404  Adding: e#34, X=406 for n#25; prior n#29  next
n#33
At x=406 Removing: e#34 n#25
At x=416 adding p#18 into n#32
At x=416  Adding: e#35, X=431 for n#32; prior n#34  next
n#35
```

At x=416 Adding: e#36, X=420 for n#36; prior n#35 next
n#26
BF tree at end of point added:
R---- H5 n#17 prior n#23 next n#29
    L---- H3 n#27 prior n#9 next n#23
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#27
    | R---- H1 n#23 prior n#27 next n#17
    R---- H4 n#26 prior n#36 next n#22
        L---- H3 n#34 prior n#33 next n#32
        | L---- H2 n#33 prior n#29 next n#34
        | | L---- H1 n#29 prior n#17 next n#33
        | R---- H2 n#35 prior n#32 next n#36
        | L---- H1 n#32 prior n#34 next n#35
        | R---- H1 n#36 prior n#35 next n#26
        R---- H2 n#8 prior n#22 next n#4
            L---- H1 n#22 prior n#26 next n#8
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-543) #1(p1;-543,-150) #9(p5;-150,-23)
#27(p14;-23,125) #23(p12;125,264) #17(p9;264,284)
#29(p15;284,371) #33(p17;371,409) #34(p16;409,435)
#32(p13;435,478) #35(p18;478,478) #36(p13;478,499)
#26(p11;499,578) #22(p8;578,738) #8(p2;738,3603)
#4(p0;3603,nil)
Priority queue:
R----H3 e#25 X=649; n#9
    L----H2 e#35 X=431; n#32
    | L----H1 e#36 X=420; n#36
    | R----H1 e#30 X=432; n#17
    R----H1 e#31 X=3765; n#23

At x=420 Removing: e#36 n#36
At x=420 Adding: e#37, X=556 for n#26; prior n#35 next
n#22
At x=431 Removing: e#35 n#32
At x=431 Adding: e#38, X=492 for n#34; prior n#33 next
n#35
At x=432 Removing: e#30 n#17
At x=432 Invalid: e#31 n#23
At x=432 Adding: e#39, X=656 for n#23; prior n#27 next
n#29
At x=435 adding p#19 into n#34
At x=435 Invalid: e#38 n#34
At x=435 Adding: e#40, X=443 for n#34; prior n#33 next
n#37
At x=435 Adding: e#41, X=436 for n#38; prior n#37 next
n#35
BF tree at end of point added:
R---- H5 n#29 prior n#23 next n#33
    L---- H3 n#27 prior n#9 next n#23
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#27
    | R---- H1 n#23 prior n#27 next n#29
    R---- H4 n#26 prior n#35 next n#22
        L---- H3 n#34 prior n#33 next n#37
        | L---- H1 n#33 prior n#29 next n#34
        | R---- H2 n#38 prior n#37 next n#35
        | L---- H1 n#37 prior n#34 next n#38
        | R---- H1 n#35 prior n#38 next n#26
        R---- H2 n#8 prior n#22 next n#4
            L---- H1 n#22 prior n#26 next n#8
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-578) #1(p1;-578,-172) #9(p5;-172,-61)
#27(p14;-61,136) #23(p12;136,266) #29(p15;266,368)
#33(p17;368,414) #34(p16;414,435) #37(p19;435,435)
#38(p16;435,445) #35(p18;445,541) #26(p11;541,601)
#22(p8;601,769) #8(p2;769,3766) #4(p0;3766,nil)
Priority queue:
R----H3 e#25 X=649; n#9
    L----H2 e#40 X=443; n#34
    | L----H1 e#41 X=436; n#38
    | R----H1 e#37 X=556; n#26
    R----H1 e#39 X=656; n#23

At x=436 Removing: e#41 n#38
At x=443 Removing: e#40 n#34
At x=443 Adding: e#42, X=563 for n#33; prior n#29 next
n#37
At x=445 adding p#20 into n#27
At x=445 Adding: e#43, X=658 for n#27; prior n#9 next
n#39
At x=445 Adding: e#44, X=813 for n#40; prior n#39 next
n#23
BF tree at end of point added:
R---- H4 n#29 prior n#23 next n#33
    L---- H3 n#27 prior n#9 next n#39
    | L---- H2 n#1 prior n#0 next n#9

| | L---- H1 n#0 - nil   next n#1
| | R---- H1 n#9 prior n#1 next n#27
| R---- H2 n#40 prior n#39 next n#23
| L---- H1 n#39 prior n#27 next n#40
| R---- H1 n#23 prior n#40 next n#29
R---- H3 n#26 prior n#35 next n#22
    L---- H2 n#37 prior n#33 next n#35
    | L---- H1 n#33 prior n#29 next n#37
    | R---- H1 n#35 prior n#37 next n#26
    R---- H2 n#8 prior n#22 next n#4
        L---- H1 n#22 prior n#26 next n#8
        R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-596) #1(p1;-596,-184) #9(p5;-184,-79)
#27(p14;-79,28) #39(p20;28,28) #40(p14;28,140)
#23(p12;140,262) #29(p15;262,367) #33(p17;367,415)
#37(p19;415,455) #35(p18;455,561) #26(p11;561,613)
#22(p8;613,785) #8(p2;785,3852) #4(p0;3852,nil)
Priority queue:
R----H3 e#25 X=649; n#9
    L----H2 e#37 X=556; n#26
    | R----H1 e#42 X=563; n#33
    R----H2 e#43 X=658; n#27
        L----H1 e#39 X=656; n#23
        R----H1 e#44 X=813; n#40

At x=462 adding p#21 into n#37
At x=462 Adding: e#45, X=466 for n#37; prior n#33 next
n#41
At x=462 Adding: e#46, X=551 for n#42; prior n#41 next
n#35
BF tree at end of point added:
R---- H5 n#29 prior n#23 next n#33
    L---- H3 n#27 prior n#9 next n#39
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#27
    | R---- H2 n#40 prior n#39 next n#23
    | L---- H1 n#39 prior n#27 next n#40
    | R---- H1 n#23 prior n#40 next n#29
    R---- H4 n#26 prior n#35 next n#22
        L---- H3 n#37 prior n#33 next n#41
        | L---- H1 n#33 prior n#29 next n#37
        | R---- H2 n#42 prior n#41 next n#35
        | L---- H1 n#41 prior n#37 next n#42
        | R---- H1 n#35 prior n#42 next n#26
        R---- H2 n#8 prior n#22 next n#4
            L---- H1 n#22 prior n#26 next n#8
            R---- H1 n#4 prior n#8 nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-627) #1(p1;-627,-203) #9(p5;-203,-110)
#27(p14;-110,-29) #39(p20;-29,59) #40(p14;59,147)
#23(p12;147,256) #29(p15;256,366) #33(p17;366,404)
#37(p19;404,418) #41(p21;418,418) #42(p19;418,461)
#35(p18;461,592) #26(p11;592,633) #22(p8;633,813)
#8(p2;813,3998) #4(p0;3998,nil)
Priority queue:
R----H4 e#25 X=649; n#9
    L----H3 e#37 X=556; n#26
    | L----H2 e#45 X=466; n#37
    | | R----H1 e#46 X=551; n#42
    | R----H1 e#42 X=563; n#33
    R----H2 e#43 X=658; n#27
        L----H1 e#39 X=656; n#23
        R----H1 e#44 X=813; n#40

At x=466 Removing: e#45 n#37
At x=466 Invalid: e#42 n#33
At x=466 Adding: e#47, X=503 for n#33; prior n#29 next
n#41
At x=481 adding p#22 into n#40
At x=481 Invalid: e#44 n#40
At x=481 Adding: e#48, X=506 for n#40; prior n#39 next
n#43
At x=481 Adding: e#49, X=483 for n#44; prior n#43 next
n#23
BF tree at end of point added:
R---- H5 n#29 prior n#23 next n#33
    L---- H4 n#27 prior n#9 next n#39
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil   next n#1
    | | R---- H1 n#9 prior n#1 next n#27
    | R---- H3 n#40 prior n#39 next n#43
    | L---- H1 n#39 prior n#27 next n#40
    | R---- H2 n#44 prior n#43 next n#23
    | L---- H1 n#43 prior n#40 next n#44
    | R---- H1 n#23 prior n#44 next n#29
    R---- H4 n#26 prior n#35 next n#22
        L---- H3 n#41 prior n#33 next n#42
        | L---- H1 n#33 prior n#29 next n#41
        | R---- H2 n#42 prior n#41 next n#35

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            |        R---- H1 n#35  prior n#42  next n#26
        R---- H2 n#8  prior n#22  next n#4
            L---- H1 n#22  prior n#26  next n#8
            R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-662) #1(p1;-662,-225) #9(p5;-225,-143)
#27(p14;-143,-71) #39(p20;-71,73) #40(p14;73,136)
#43(p22;136,136) #44(p14;136,154) #23(p12;154,249)
#29(p15;249,364) #33(p17;364,382) #41(p21;382,441)
#42(p19;441,466) #35(p18;466,624) #26(p11;624,656)
#22(p8;656,843) #8(p2;843,4162) #4(p0;4162,nil)
Priority queue:
R----H4 e#25 X=649; n#9
    L----H3 e#46 X=551; n#42
    |    L----H2 e#47 X=503; n#33
    |    |    L----H1 e#49 X=483; n#44
    |    |    R----H1 e#48 X=506; n#40
    |    R----H1 e#37 X=556; n#26
    R----H2 e#43 X=658; n#27
        L----H1 e#39 X=656; n#23


At x=483 Removing: e#49 n#44
At x=483  Invalid: e#39 n#23
At x=483  Adding: e#50, X=538 for n#23; prior n#43  next
n#29
At x=489 adding p#23 into n#23
At x=489  Invalid: e#50 n#23
At x=489  Adding: e#51, X=501 for n#23; prior n#43  next
n#45
At x=489  Adding: e#52, X=490 for n#46; prior n#45  next
n#29
BF tree at end of point added:
R---- H5 n#29  prior n#46  next n#33
    L---- H4 n#27  prior n#9  next n#39
    |    L---- H2 n#1  prior n#0  next n#9
    |    |    L---- H1 n#0  -  nil    next n#1
    |    |    R---- H1 n#9  prior n#1  next n#27
    |    R---- H3 n#23  prior n#43  next n#45
    |        L---- H2 n#40  prior n#39  next n#43
    |        |    L---- H1 n#39  prior n#27  next n#40
    |        |    R---- H1 n#43  prior n#40  next n#23
    |        R---- H2 n#45  prior n#23  next n#46
    |            R---- H1 n#46  prior n#45  next n#29
    R---- H4 n#26  prior n#35  next n#22
        L---- H3 n#41  prior n#33  next n#42
        |    L---- H1 n#33  prior n#29  next n#41
        |    R---- H2 n#42  prior n#41  next n#35
        |        R---- H1 n#35  prior n#42  next n#26
        R---- H2 n#8  prior n#22  next n#4
            L---- H1 n#22  prior n#26  next n#8
            R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-676) #1(p1;-676,-234) #9(p5;-234,-157)
#27(p14;-157,-88) #39(p20;-88,78) #40(p14;78,107)
#43(p22;107,172) #23(p12;172,236) #45(p23;236,236)
#46(p12;236,247) #29(p15;247,363) #33(p17;363,374)
#41(p21;374,446) #42(p19;446,468) #35(p18;468,637)
#26(p11;637,665) #22(p8;665,856) #8(p2;856,4231)
#4(p0;4231,nil)
Priority queue:
R----H4 e#46 X=551; n#42
    L----H3 e#47 X=503; n#33
    |    L----H2 e#51 X=501; n#23
    |    |    L----H1 e#52 X=490; n#46
    |    R----H1 e#48 X=506; n#40
    R----H2 e#25 X=649; n#9
        L----H1 e#37 X=556; n#26
        R----H1 e#43 X=658; n#27


Processing remaining circle events
At x=490 Removing: e#52 n#46
At x=490  Adding: e#53, X=626 for n#29; prior n#45  next
n#33
Priority queue
R----H4 e#46 X=551; n#42
    L----H2 e#47 X=503; n#33
    |    L----H1 e#51 X=501; n#23
    |    R----H1 e#48 X=506; n#40
    R----H3 e#25 X=649; n#9
        L----H2 e#37 X=556; n#26
        |    R----H1 e#53 X=626; n#29
        R----H1 e#43 X=658; n#27
At x=501 Removing: e#51 n#23
Priority queue
R----H4 e#46 X=551; n#42
    L----H2 e#47 X=503; n#33
    |    R----H1 e#48 X=506; n#40
    R----H3 e#25 X=649; n#9
        L----H2 e#37 X=556; n#26
        |    R----H1 e#53 X=626; n#29
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            R----H1 e#43 X=658; n#27
At x=503 Removing: e#47 n#33
At x=503  Invalid: e#53 n#29
At x=503  Adding: e#54, X=574 for n#29; prior n#45  next
n#41
Priority queue
R----H3 e#37 X=556; n#26
    L----H2 e#46 X=551; n#42
    |    L----H1 e#48 X=506; n#40
    R----H2 e#25 X=649; n#9
        L----H1 e#54 X=574; n#29
        R----H1 e#43 X=658; n#27
At x=506 Removing: e#48 n#40
Priority queue
R----H3 e#37 X=556; n#26
    L----H1 e#46 X=551; n#42
    R----H2 e#25 X=649; n#9
        L----H1 e#54 X=574; n#29
        R----H1 e#43 X=658; n#27
At x=551 Removing: e#46 n#42
Priority queue
R---H3 e#25 X=649; n#9
    L----H2 e#37 X=556; n#26
    |    R----H1 e#54 X=574; n#29
    R----H1 e#43 X=658; n#27
At x=556 Removing: e#37 n#26
Priority queue
R----H2 e#25 X=649; n#9
    L----H1 e#54 X=574; n#29
    R----H1 e#43 X=658; n#27
At x=574 Removing: e#54 n#29
Priority queue
R----H2 e#25 X=649; n#9
    R----H1 e#43 X=658; n#27
At x=649 Removing: e#25 n#9
At x=649  Invalid: e#43 n#27
At x=649  Adding: e#55, X=655 for n#27; prior n#1  next
n#39
Priority queue
R----H1 e#55 X=655; n#27
At x=655 Removing: e#55 n#27
Empty queue

R---- H4 n#41  prior n#45  next n#35
    L---- H3 n#39  prior n#1  next n#43
    |    L---- H2 n#1  prior n#0  next n#39
    |    |    L---- H1 n#0  -  nil    next n#1
    |    R---- H2 n#43  prior n#39  next n#45
    |        R---- H1 n#45  prior n#43  next n#41
    R---- H3 n#22  prior n#35  next n#8
        L---- H1 n#35  prior n#41  next n#22
        R---- H2 n#8  prior n#22  next n#4
            R---- H1 n#4  prior n#8  nil
Beach front (nodeID, PointID, intersections):
#0(p0;nil,-676) #1(p1;-676,-136) #39(p20;-136,101)
#43(p22;101,236) #45(p23;236,236) #41(p21;236,456)
#35(p18;456,641) #22(p8;641,856) #8(p2;856,4231)
#4(p0;4231,nil)

Approx elapsed time: 1 ms
Segments: 60
Triangles: 37
Convex hull: 9 points
Parabola intersections: 1055
Circle tests: 140
BF insert comparisons: 64
BF delete comparisons: 155
Number of priority queue records created: 56
Max BF count: 19
Max BF depth: 5
Max PQ count: 8
Max PQ depth: 4

Generating Graham scan hull:
Graham scan hull: (Point ID)
20 1 0 2 8 18 21 23 22

Voronoi hull: (Point ID)
20 1 0 2 8 18 21 23 22
_____
```