

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---- H1 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):

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#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#7 prior n#14 next n#15
    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---- H2 n#13 prior n#5 next n#14
        | R---- H1 n#14 prior n#13 next n#7
    R---- H3 n#8 prior n#16 next n#4
        L---- H2 n#15 prior n#7 next n#16
        | R---- 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#7 prior n#14 next n#17
    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---- H2 n#13 prior n#5 next n#14
        | R---- H1 n#14 prior n#13 next n#7
    R---- H3 n#8 prior n#15 next n#4
        L---- H2 n#18 prior n#17 next n#15
        | L---- H1 n#17 prior n#7 next n#18
        | R---- H1 n#15 prior n#18 next n#8
    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---- H5 n#17 prior n#14 next n#18
    L---- H4 n#9 prior n#1 next n#19
        | L---- H2 n#1 prior n#0 next n#9
        | | L---- H1 n#0 - nil next n#1
        | | R---- H3 n#13 prior n#20 next n#14
        | L---- H2 n#19 prior n#9 next n#20
        | | R---- H1 n#20 prior n#19 next n#13
        | R---- H1 n#14 prior n#13 next n#17
    R---- H3 n#8 prior n#15 next n#4
        L---- H2 n#18 prior n#17 next n#15

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    | R---- H1 n#15 prior n#18 next n#8
    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#9 prior n#1 next n#19
        | L---- H2 n#1 prior n#0 next n#9
        | | L---- H1 n#0 - nil next n#1
        | R---- H2 n#13 prior n#19 next n#17
        | L---- H1 n#19 prior n#9 next n#13
    R---- H3 n#21 prior n#15 next n#22
        L---- H2 n#15 prior n#18 next n#21
        | L---- H1 n#18 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#9 prior n#1 next n#19
        | L---- H2 n#1 prior n#0 next n#9
        | | L---- H1 n#0 - nil next n#1
        | R---- H2 n#23 prior n#19 next n#24
        | L---- H1 n#19 prior n#9 next n#23
        | R---- H1 n#13 prior n#24 next n#17
        | L---- H1 n#24 prior n#23 next n#13
    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#9 prior n#1 next n#19
        | L---- H2 n#1 prior n#0 next n#9
        | | L---- H1 n#0 - nil next n#1
        | R---- H2 n#23 prior n#19 next n#13
        | L---- H1 n#19 prior n#9 next n#23

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|      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#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---- H5 n#17 prior n#13 next n#21
|      L---- H4 n#9 prior n#1 next n#27
|      |      L---- H2 n#1 prior n#0 next n#9
|      |      |      L---- H1 n#0 - nil next n#1
|      |      |      |      R---- H3 n#23 prior n#28 next n#13
|      |      |      |      |      L---- H2 n#27 prior n#9 next n#28
|      |      |      |      |      |      R---- 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---- H4 n#9 prior n#1 next n#27
|      |      L---- H2 n#1 prior n#0 next n#9
|      |      |      L---- H1 n#0 - nil next n#1
|      |      |      |      R---- H3 n#23 prior n#28 next n#13
|      |      |      |      |      L---- H2 n#27 prior n#9 next n#28
|      |      |      |      |      |      R---- 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#9 prior n#1 next n#27
|      |      L---- H2 n#1 prior n#0 next n#9
|      |      |      L---- H1 n#0 - nil next n#1
|      |      |      |      R---- H2 n#23 prior n#27 next n#17
|      |      |      |      |      L---- H1 n#27 prior n#9 next n#23
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#9 prior n#1 next n#27
|      |      L---- H2 n#1 prior n#0 next n#9
|      |      |      L---- H1 n#0 - nil next n#1
|      |      |      |      R---- H2 n#23 prior n#27 next n#17
|      |      |      |      |      L---- H1 n#27 prior n#9 next n#23
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#9 prior n#1 next n#27
| |
| | L---- H2 n#1 prior n#0 next n#9
| | |
| | | L---- H1 n#0 - nil next n#1
| | |
| | R---- H2 n#23 prior n#27 next n#17
| | |
| | | L---- H1 n#27 prior n#9 next n#23
| | |
| R---- H4 n#26 prior n#36 next n#22
| |
| | L---- H3 n#32 prior n#34 next n#35
| | |
| | | L---- H2 n#33 prior n#29 next n#34
| | | |
| | | | L---- H1 n#29 prior n#17 next n#33
| | | |
| | | | R---- H1 n#34 prior n#33 next n#32
| | | |
| | | R---- H2 n#35 prior n#32 next n#36
| | | |
| | | | 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#9 prior n#1 next n#27
| |
| | L---- H2 n#1 prior n#0 next n#9
| | |
| | | L---- H1 n#0 - nil next n#1
| | |
| | R---- H2 n#23 prior n#27 next n#29
| | |
| | | L---- H1 n#27 prior n#9 next n#23
| | |
| 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#9 prior n#1 next n#27
| |
| | L---- H2 n#1 prior n#0 next n#9
```

```
|
| L---- H1 n#0 - nil next n#1
| R---- H2 n#39 prior n#27 next n#40
|
| L---- H1 n#27 prior n#9 next n#39
| R---- H1 n#23 prior n#40 next n#29
|
| L---- H1 n#40 prior n#39 next n#23
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#9 prior n#1 next n#27
| |
| | L---- H2 n#1 prior n#0 next n#9
| | |
| | | L---- H1 n#0 - nil next n#1
| | |
| | R---- H2 n#39 prior n#27 next n#40
| | |
| | | L---- H1 n#27 prior n#9 next n#39
| | | |
| | | | R---- H1 n#23 prior n#40 next n#29
| | | |
| | | | L---- H1 n#40 prior n#39 next n#23
| | |
| 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#9 prior n#1 next n#27
| |
| | L---- H2 n#1 prior n#0 next n#9
| | |
| | | L---- H1 n#0 - nil next n#1
| | |
| | R---- H3 n#39 prior n#27 next n#40
| | |
| | | L---- H1 n#27 prior n#9 next n#39
| | | |
| | | | R---- H2 n#43 prior n#40 next n#44
| | | |
| | | | L---- H1 n#40 prior n#39 next n#43
| | | |
| | | | R---- H1 n#23 prior n#44 next n#29
| | | |
| | | | L---- H1 n#44 prior n#43 next n#23
| | |
| 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,-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#9 prior n#1 next n#27
    | L---- H2 n#1 prior n#0 next n#9
    | | L---- H1 n#0 - nil next n#1
    | R---- H3 n#43 prior n#40 next n#23
    | | L---- H2 n#39 prior n#27 next n#40
    | | | L---- H1 n#27 prior n#9 next n#39
    | | | R---- H1 n#40 prior n#39 next n#43
    | | R---- H2 n#45 prior n#23 next n#46
    | | L---- H1 n#23 prior n#43 next n#45
    | | 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

```

```

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
Number of priority queue records created: 56
Max BF count: 19
Max BF depth: 6
Max PQ count: 8
Max PQ depth: 4

Generating Graham scan hull:
Graham scan hull:
20 1 0 2 8 18 21 23 22

Voronoi hull:
20 1 0 2 8 18 21 23 22

```