sweep_line.cpp File Reference

Line **Segment** Intersections. More...

```
#include <iostream>
#include <bits/stdc++.h>
```

Classes

struct	**point** Structure of a 2-D point. More...
struct	**Segment** Structure of a line segment. More...
struct	**eventNode** Structure of node in **eventQueue**. More...
class	**eventQueue** **eventQueue** to maintain the ordering of points according to x-coordinates More...
struct	**statusNode** structure of node in **sweepLineStatus** data structure More...
class	**sweepLineStatus** sweepLinesStatus structure to maintain the ordering of line segments according to order intersected by sweep-line More...

Macros

#define	**lft**	-1
#define	**rt**	1
#define	**RED**	2
#define	**BLACK**	3

Functions

bool	**onSeg** (**point** l, **point** m, **point** r) function to indicate if 3 points are collinear
int	**find_orientation** (**point** l, **point** m, **point** r) function to indicate if 3 orientation of points.
bool	**check_intersection** (**Segment** s1, **Segment** s2) function to check if 2 line segments intersect.
point	**get_intersection** (**Segment** s1, **Segment** s2) function to get point of intersection of 2 line segments
bool	**comp** (const **Segment** &a, const **Segment** &b)
int	**main** () Implementation of the line-sweep algorithm to detect and find intersection points among pairs of line segments. More...

Detailed Description

Line **Segment** Intersections.

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Function Documentation

◆ main()

int main ( )

Implementation of the line-sweep algorithm to detect and find intersection points among pairs of line segments.

vector to store intersection points

vector to store segments

input file stream

output file stream

iterative inorder traversal of **eventQueue** to process event points in order

left endpoint

right endpoint

intersection point

seg is above seg1

seg1 above seg

Write the set of intersection points in output file

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