NOTES ON SOMETHING

AUTHOR

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1 A section

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1.1 A subsection

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Citing Equation 1.

$$a + b = c \tag{1}$$

2 Another section

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Table 1: Table caption

Column 1	**Column 2**	**Column 3**
Description 1	0.1	1.0
Description 2	0.2	2.0

Algorithm 1 AlgorithmTitle(q, P)

Input. Algorithm input.
Output. Algorithm output.

1: Draw a horizontal line l_{0r} from q to its left
2: Move from infinity to q, following l_{0r}, and count the number N of intersections of l_{0r} with P
3: **if** N is odd **then**
4: q is inside P
5: **else**
6: q is outside P
7: **end if**
8: **for** all edges e_{ab} of P, where a is the lower and b is the upper point **do**
9: **if** $a_y < q_y$ **and** $b_y > q_y$ **and** Equation 1 is satisfied **then**
10: $N = N + 1$
11: **end if**
12: **end for**

Citing lines 1 and 9 of Algorithm 1.

It is possible to include snippets from real code, like in Listing 1.

Listing 1 Code snippet

```
#include <iostream>
/*
 * This is a multi line comment
 */
int main()
{
    // This is a single line comment
    std::cout << "Hello world" << std::endl;
    return 0;
}
```

Explanation of code using highlighted syntax.

```
double x, y; ..... declaration without initialization
double x = 1.5; ..... declaration with initialization
double x(1.5); ..... declaration with initialization
const double x = 1.5; ..... initializes a constant
```

Definition 1. Lines intersections.

1. The lower point of l_{ab} lies below q.
2. The upper point of l_{ab} lies above q.
3. q lies to the right from the line $\overrightarrow{l}_{ab}$, that goes from a to b.

Problem 1. Point inclusion in a polygon

Given a point q and a polygon P, determine if q is inside or outside P.