

Convex Hull

Extreme Points

- Determinant

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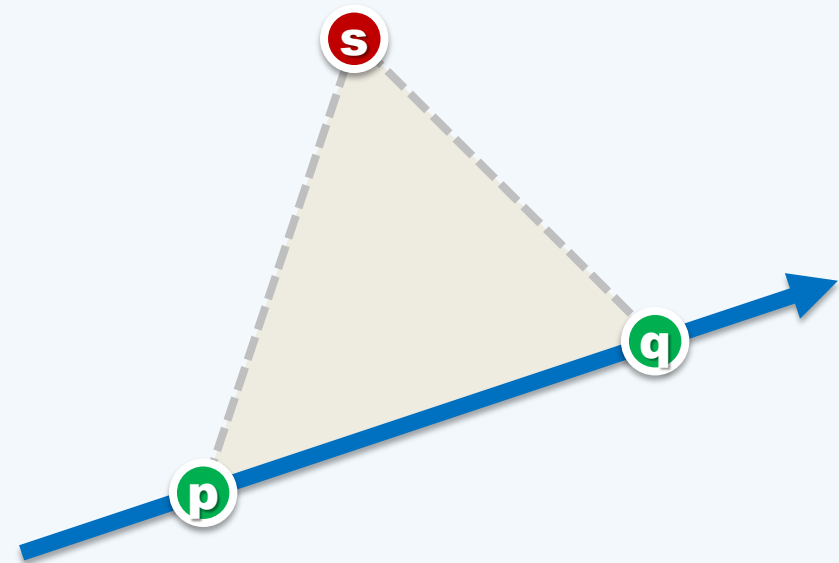
Directed Area

❖ `bool ToLeft(Point p, Point q, Point s)`

`return Area2(p, q, s) > 0;`

❖

$$2*S = \begin{vmatrix} p.x & p.y & 1 \\ q.x & q.y & 1 \\ s.x & s.y & 1 \end{vmatrix}$$



Implementation

```
❖ int Area2( Point p, Point q, Point s )
```

```
    return
```

```
        p.x * q.y - p.y * q.x  
    + q.x * s.y - q.y * s.x  
    + s.x * p.y - s.y * p.x;
```

