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Minimum Expression

Minimum Expression is the alphabetically first representation of a cyclic string.

Code

This algorithm is taken from Zobayer Hasan's [Blog](#), where it is named Zhou Yuan's Algorithm. At [Wiki](#), something similar can be found which is name Booth's Algorithm.

Explanation: [Quora](#)

```
inline int minimumExpression(char *s) {  
    int i, j, k, n, len, p, q;  
    len = n = strlen(s), n <= 1, i = 0, j = 1, k = 0;  
    while(i + k < n && j + k < n) {  
        p = i+k >= len ? s[i+k-len] : s[i+k];  
        q = j+k >= len ? s[j+k-len] : s[j+k];  
        if(p == q) k++;  
        else if(p > q) { i = i+k+1; if(i <= j) i = j+1; k = 0; }  
        else if(p < q) { j = j+k+1; if(j <= i) j = i+1; k = 0; }  
    }  
    return i < j ? i : j;  
}
```

Pass the function a string, and it will return the index of the position which is lexicographically smallest rotation.

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