# 1578: Minimum Time To Make Rope Colorful

X X
a a a b c

1 3 5

ans += min( value , score[i+1] )
value = max (value, score[i+1]

We are able to sum all numbers excluding
the max / min by selecting max/min value
each iteration.

```
struct Balloon {
    char color;
    int time;
};

bool operator< (const Balloon& lhs, const Balloon& rhs){
    if ( lhs.color != rhs.color) {
        return lhs.color < rhs.color;
    }
    return lhs.time < rhs.time;
}
```

```cpp
int minCost ( const std::string& colors, const std::vector<int>& neededTime){

    assert( colors.size() == neededTime.size());
    assert ( colors.size() > 0);

    std::vector< Balloon> balloons;
    for (int i= 0; i< colors.size(); ++i) {
        balloons. push-back ({ colors[i], timeNeeded[i] });
    }

    int result{};
    auto maxBalloon { balloons[0] };
    for ( int i=0; i< balloons.size()-1; ++i) {
        if ( balloons[i].color == balloons[i+1].color ) {
            result += std::min (maxBalloon, balloons[i+1]);
            maxBalloon = std::max (maxBalloon, balloons[i+1]);
            continue;
        }
        maxBalloon = balloons[i+1];
    }
    return result;
}
```