
Algorithm 1 Bisection

Require: An 'oracle' function O which can evaluate arbitrary SQL queries

```
1: procedure BISECTION
2:    $p \leftarrow ""$ 
3:   for  $i \in [1, 60]$  do
4:      $l \leftarrow 0$ 
5:      $h \leftarrow 127$ 
6:     while  $l \leq h$  do
7:        $m \leftarrow \lfloor \frac{l+h}{2} \rfloor$ 
8:       if  $O('ASCII(MID(password,i,1)) BETWEEN l AND m')$  then
9:          $h \leftarrow m - 1$ 
10:      else
11:         $l \leftarrow m + 1$ 
12:      end if
13:    end while
14:     $p \leftarrow p + l$   $\triangleright$  Convert  $l$  to char
15:  end for
16:  return  $p$ 
17: end procedure
```

Algorithm 2 SQL-Anding

Require: An 'oracle' function O which can evaluate arbitrary SQL queries

```
1: procedure SQLANDING
2:    $p \leftarrow ""$ 
3:   for  $i \in [1, 60]$  do
4:      $c \leftarrow 0$ 
5:     for  $j \in [0, 6]$  do
6:       if  $O('ASCII(MID(password, i, 1)) \& 2^j')$  then
7:          $c \leftarrow c + j$ 
8:       end if
9:     end for
10:     $p \leftarrow p + c$  ▷ Convert  $c$  to char
11:  end for
12:  return  $p$ 
13: end procedure
```
