

1 Conquer Algorithm

1.1 Introduction

These algorithms mainly contain with:

- divide and conquer
- decrease and conquer
- change and conquer

1.2 Find the k'th minimal number in a list

1.2.1 Pseudo code

Algorithm 1 Divide-and-Conquer algorithm

Require: The total problem p

Ensure: The result of problem T

```

1: function DIVIDE-AND-CONQUER( $p$ )                                ▷ Input problem as p
2:   if  $|p| \leq n_0$  then                                          ▷ If p is small enough, deal with it
3:     return(Adhoc( $p$ ))
4:   end if
5:   Divide  $p$  into sub-problems:  $p_1, p_2, \dots, p_k$ 
6:   for  $i \leftarrow 1$  to  $k$  do
7:      $y_i \leftarrow$  Divide-and-Conquer( $p_i$ )                      ▷ Deal with  $p_i$  recursively
8:   end for
9:    $T \leftarrow$  Merge( $y_1, y_2, \dots, y_k$ )                        ▷ Merge sub-problems
10:  return  $T$ 
11: end function

```

1.3 Demo

Something to declare here.

1.3.1 Pseudo code

Below is the pseudo code

Algorithm 2 Divide-and-Conquer algorithm

Require: The total problem p

Ensure: The result of problem T

```

1: function DIVIDE-AND-CONQUER( $p$ )                                ▷ Input problem as p
2:   if  $|p| \leq n_0$  then                                          ▷ If p is small enough, deal with it
3:     return(Adhoc( $p$ ))
4:   end if
5:   Divide  $p$  into sub-problems:  $p_1, p_2, \dots, p_k$ 
6:   for  $i \leftarrow 1$  to  $k$  do
7:      $y_i \leftarrow$  Divide-and-Conquer( $p_i$ )                      ▷ Deal with  $p_i$  recursively
8:   end for
9:    $T \leftarrow$  Merge( $y_1, y_2, \dots, y_k$ )                        ▷ Merge sub-problems
10:  return  $T$ 
11: end function
  
```

1.3.2 Flowchart

data1	data2	data3
sex	10	3
hell	9	6

表 1: algorithm's table



图 1: algorithm's flowchart

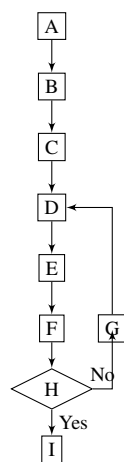


图 2: flowchart2

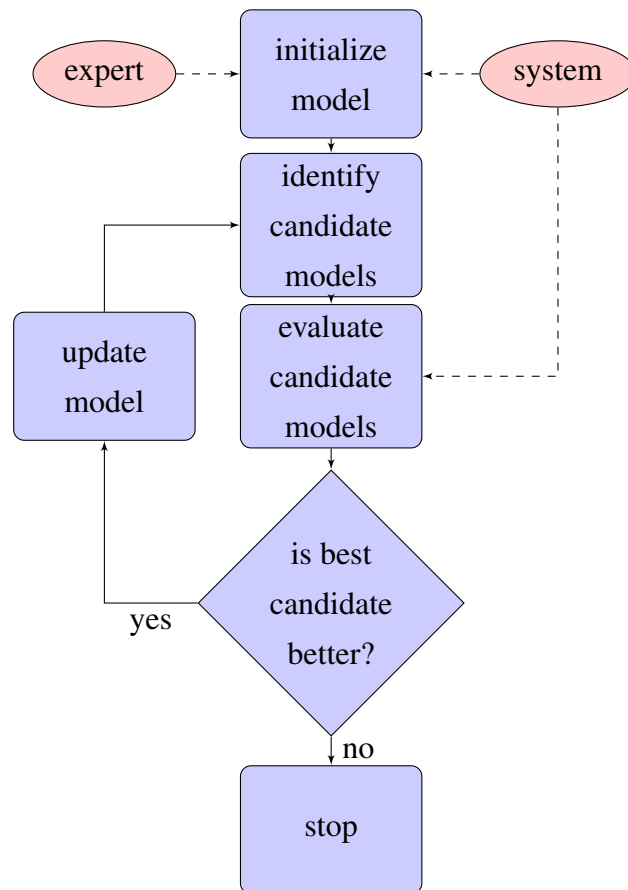


图 3: flowchart3

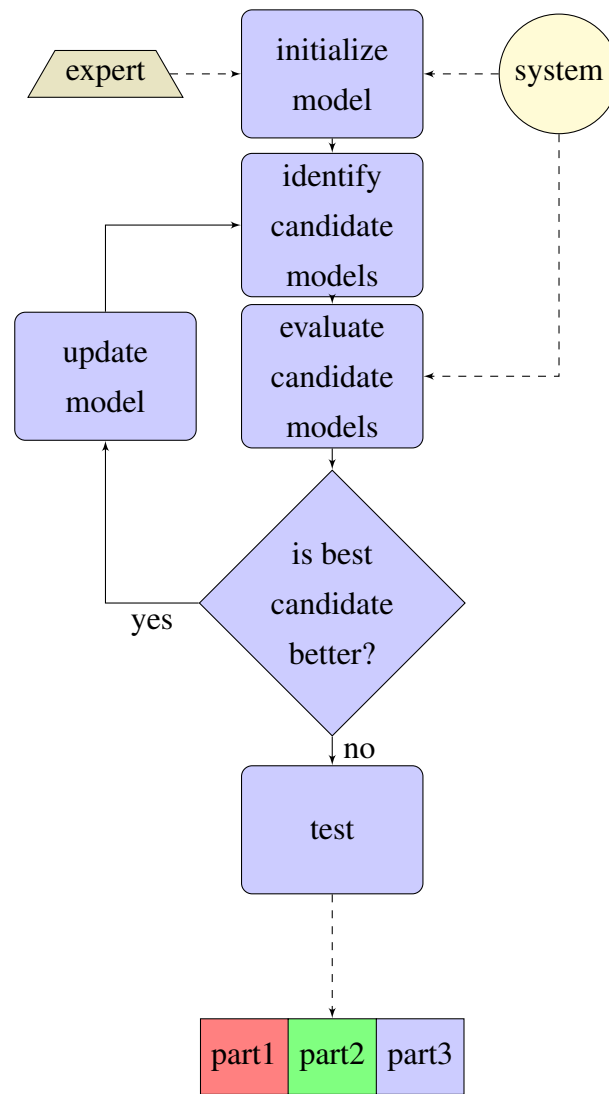


图 4: flowchart4