

# Compact Answers to Temporal Regular Path Queries (Supplementary Material)

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## 1 INDUCTIVE REPRESENTATION

### 1.1 $\langle q \rangle_G^{[t,d],b,e}$

#### 1.1.1 Definition.

#### 1.1.2 Correctness.

path<sub>1</sub>/path<sub>2</sub>. Let  $\mathbf{u}_1 = \langle o_1, o_2, \tau_1, \delta_1 \rangle$  and  $\mathbf{u}_2 = \langle o_3, o_4, \tau_2, \delta_2 \rangle$ , with  $o_2 = o_3$ .

For each  $i \in \{1, 2\}$  and  $t \in \tau_i$ , we use  $\delta_i(t)$  for the interval

$$\delta_i \downarrow b_{\delta_i} + \max(0, b_i - t), e_{\delta_i} - \max(0, t - e_i) \downarrow \delta_i$$

And similarly to what we did for  $\mathcal{U}^{[t,d]}$ , we use  $R_i$  for be the binary relation over  $\mathcal{T}$  specified by the time points and distances in  $\mathbf{u}_i$ , i.e.  $R_i = \{(t, t + d) \mid t \in \tau_i, d \in \delta_i(t)\}$ .

## 2 FINITENESS

## 3 COMPLEXITY OF QUERY ANSWERING

## 4 MINIMIZATION

## 5 SIZE OF COMPACT ANSWERS