|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| e | 0 |  |  |  | .00324 |
| v | 0 | .025 | .036 | .0018 |  |
| n | 0 | .24 | .0192 | .0054 |  |
| a | 1.0 | .07 | .0036 | .0162 |  |
| s |  |  |  |  |  |
|  | start | dog | flies | fly | end |

V(a,2) = max( v(a, 1) \*p(a|a) \*p(flies|a), v(n, 1)\*p(a|n)\*p(flies|a), v(v, 1)\*p(a|v)\*p(flies|a) )

= max( .07 \*.1\*.15 , .24 \*.1 \* .15 , .025 \*.3 \*.15)

= max( .00105, .0036, .001125)

= .0036

V(n,2) = max( v(a,1) \* p(n|a) \* p(flies|n), v(n,1) \* p(n|n) \* p(flies|n), v(v,1) \* p(n|v) \* p(flies|n) )

= max( .07 \* .6 \* .2, .24 \* .4 \* .2, .025 \* . 3 \* .2)

= max (.0084, .0192, .0015)

= .0192

V(v,2) = max(v(a,1) \* p(v|a) \* p(flies|v), v(n,1) \* p(v|n) \* p(flies|v), v(v,1) \* p(v|v) \* p(flies|v))

= max ( .07 \* .1 \* .5, .24 \* .3 \* .5, .025 \*.2 \*.5)

= max (.0035, .036, .025)

= .036

V(a,3). = max(v(a,2) \* p(a|a) \* p(fly|a), v(n,2) \* p(a|n) \* p(fly|a), v(v,2) \* p(a|v) \* p(fly|a))

=max( .0036 \* .1 \* .15, .0192 \* .1 \* .15, .036 \* .3 \* 15)

= max(.000054,.000288, .00162)

= .00162

V(n,3) = max(v(a,2) \* p(n|a) \* p(fly|n), v(n,2) \* p(n|n) \* p(fly|n), v(v,2) \* p(n|v) \* p(fly|n))

= max(.0036 \* .6 \* .5, .0192 \* .4 \*.5, .036 \*.3 \*.5)

= max(.00108,.00384, .0054)

= .0054

V(v,3) = max(v(a,2) \* p(v|a) \* p(fly|v), v(n,2) \* p(v|n) \* p(fly|v), v(v,2) \* p(v|v) \* p(fly|v))

= max(.0036 \*.1 \* .25, .0192 \* .3 \* .25, .036 \* .2 \* .25)

= max(.00009,.00144,.0018)

= .0018

V(e,4) = max(v(a,3) \* p(e|a) \* p(end|v), v(n,3) \* p(e|n) \* p(end|v), v(v,3) \* p(e|v) \* p(end|v))

= max(.0162. \*. 2, .0054 \* .2, .0018\* .2)

= max( .00324, .000108, .00036)

= .00324

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| e |  |  |  |  | a\* |
| v |  | s | n\* | v |  |
| n |  | s\* | n | v |  |
| a |  | s | n | v\* |  |
| s | \* |  |  |  |  |
|  | start | dog | flies | fly | end |

s n v a e

\* Marks the best path state at time T (\* cell contains the best path state at T-1)