```
sp1 = {1, 0};
pat1 = {1, 0, 1, 0};
pat2 = {1, 1, 0, 0};
pat3 = {1, 1, 0, 0, 1, 1};
(*sample space 2*)
sp2 = {0, 1, 2};
prob2 = {1 / 2, 1 / 3, 1 / 6};
pat4 = {0, 2, 0};
pat5 = {1, 0, 0, 2};
prob3 = {1 / Sqrt[2], 1 - 1 / Sqrt[2]};
patA = {1, 0, 1, 0};
patB = {0, 1, 0, 0};

PatternExpectedTime[pat1, sp1, {1, 1}]

20

PatternExpectedTime[patB, {1, 0}, {1, 1}]

18

PatternExpectedTime[pat2, sp1, {1, 1}]

16

PatternAdditionalExpectedTime[patA, patB, {1, 0}, {1, 1}]

20

PatternAdditionalExpectedTime[patB, patA, {1, 0}, {1, 1}]

8

PatternAdditionalExpectedTime[{1, 0}, {1, 1, 0}, {1, 0}, {1, 1}]

0

PatternFirstComeOutProbability[{{1, 0}, {1, 1, 0}}, {1, 0}, {1, 1}]
```

$\left\{4, \frac{1}{2}, \frac{1}{2}\right\}$

```
PatternFirstComeOutProbability[{{1, 0, 0}, {1, 0, 1}, {1, 1, 0}}, {1, 0}, {1, 1}]
```

$\left\{\frac{9}{2}, \frac{1}{4}, \frac{1}{4}, \frac{1}{2}\right\}$

```
PatternFirstComeOutProbability[{{1, 0, 1, 0}, {0, 1, 0, 1, 0, 0}}, {1, 0}, {1, 1}]
```

$\left\{\frac{58}{3}, \frac{5}{6}, \frac{1}{6}\right\}$

```
PatternAdditionalExpectedTime[{1, 0, 1, 0}, {0, 1, 0, 1, 0, 0}, {1, 0}, {1, 1}]

4

PatternAdditionalExpectedTime[{0, 1, 0, 1, 0, 0}, {1, 0, 1, 0}, {1, 0}, {1, 1}]

56
```

PatternFirstComeOutProbability [{{1, 2}, {0, 1, 1, 2}, {2, 1, 0}}, {2, 1, 0}, {1, 1, 1}]

$$\left\{ \frac{81}{11}, \frac{218}{297}, \frac{25}{297}, \frac{2}{11} \right\}$$

PatternAdditionalExpectedTime [{2, 1, 0, 0, 1}, {2, 1, 0, 0}, {1, 0}, {1, 1}]

PatternAdditionalExpectedTime [{1, 1, 0}, {1, 0}, {1, 0}, {1, 1}]

8

PatternAdditionalExpectedTime [{1, 0}, {1, 1, 0}, {1, 0}, {1, 1}]

0

PatternAdditionalExpectedTime [{1, 0, 0, 1}, {1, 0, 0}, {1, 0}, {1, 1}]

10

PatternAdditionalExpectedTime [{1, 0, 0}, {1, 0, 0, 1}, {1, 0}, {1, 1}]

−2

PatternAdditionalExpectedTime [{1, 0, 0, 1}, {1, 0, 0, 1}, {1, 0}, {1, 1}]

0

PatternFirstComeOutProbability [{{1, 0, 0, 1}, {1, 0, 0, 1}}, {1, 0}, {1, 1}]

{18, 1, 0}

PatternFirstComeOutProbability [{{0, 0, 1}, {1, 0, 0, 1}}, {1, 0}, {1, 1}]

$$\left\{ 8, \frac{5}{8}, \frac{3}{8} \right\}$$

PatternFirstComeOutProbability [{{1, 0, 0, 1}, {0, 0, 1}}, {1, 0}, {1, 1}]

$$\left\{ 8, \frac{3}{8}, \frac{5}{8} \right\}$$

PatternAdditionalExpectedTime [{0, 0, 1}, {1, 0, 0, 1}, {1, 0}, {1, 1}]

0

PatternFirstComeOutProbability [{{1, 0, 0}, {1, 0, 0, 1}}, {1, 0}, {1, 1}]

{8, 1, 0}

PatternFirstComeOutProbability [{patA, patB}, {1, 0}, {1, 1}]

$$\left\{ \frac{90}{7}, \frac{9}{14}, \frac{5}{14} \right\}$$