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Experiment No.: 10

Problems

Question 1

In[7]:=
```
g = GraphData["ButterflyGraph"];
FindEulerianCycle[g];
Table[HighlightGraph[g, Part[First[%], 1 ;; i]], {I, Length[First[%]]}]
```

Part: 1 ;; i is not a valid Span specification. A Span specification should be 1, 2, or 3 machine–sized integers separated by ;;. (Any of the integers can be omitted or replaced with All.)

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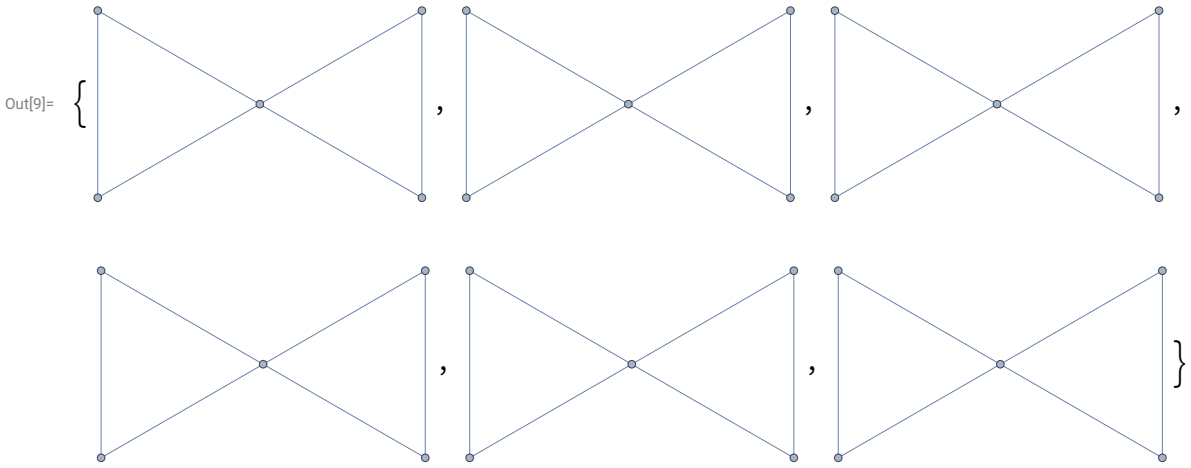
General: Further output of Part::span will be suppressed during this calculation.

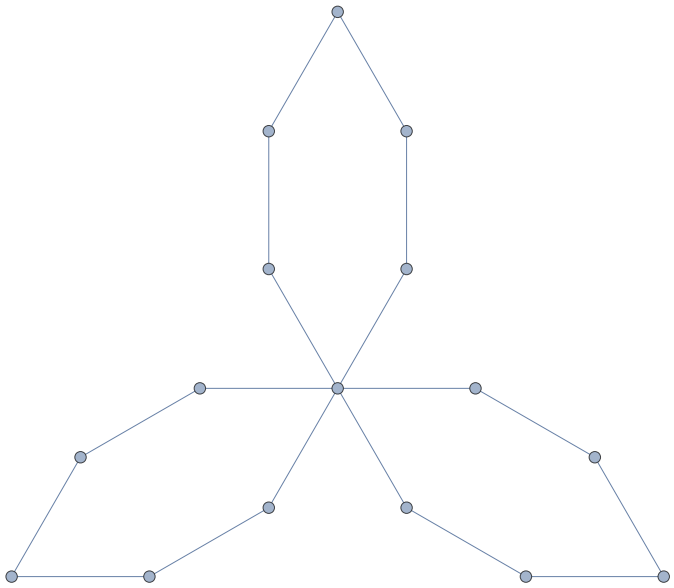
Out[9]=



Question 2

In[10]:=
```
GraphData[{"DutchWindmill", {3, 6}}]
GraphData[{"DutchWindmill", {3, 6}}];
EulerianGraphQ[%]
```

Out[10]=



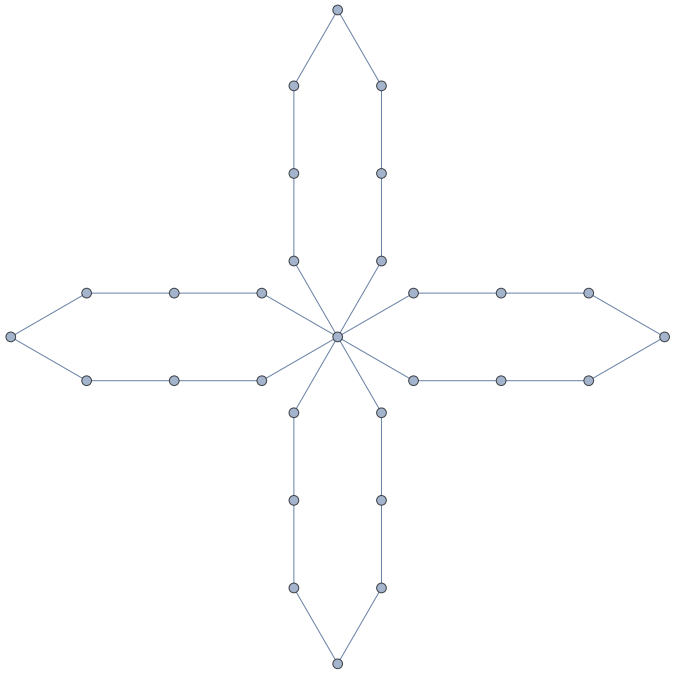
Out[12]=

True

Question 3

In[13]:=
```
GraphData[{"DutchWindmill", {4, 8}}]
GraphData[{"DutchWindmill", {4, 8}}];
EulerianGraphQ[%]
```

Out[13]=



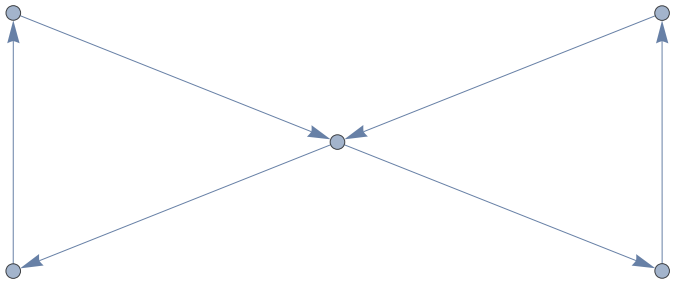
Out[15]=

```
True
```

Question 4

In[17]:=
```
g = Graph[{1 → 2, 2 → 3, 3 → 1, 3 → 4, 4 → 5, 5 → 3}]
```

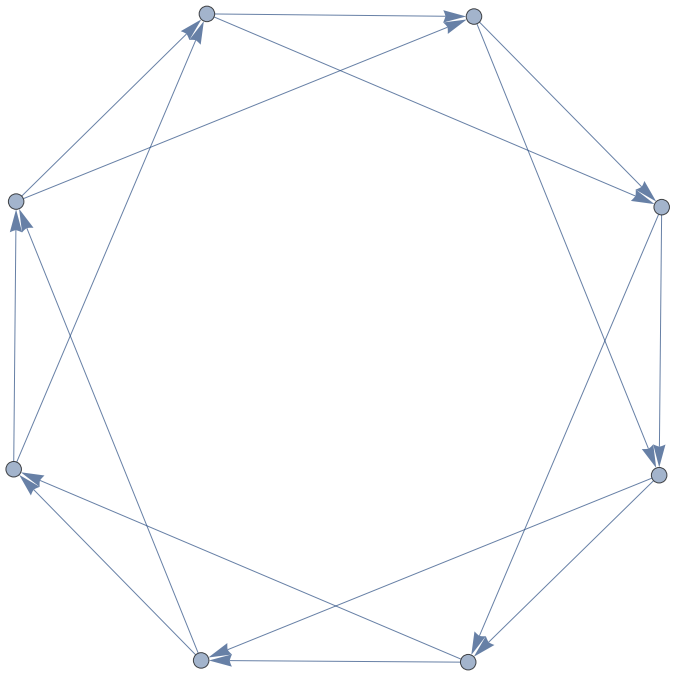
Out[17]=



Question 5

In[18]:=
```
g = Graph[{1 → 8, 8 → 7, 7 → 6, 6 → 5, 5 → 8, 8 → 4,
    4 → 7, 7 → 3, 3 → 6, 6 → 2, 2 → 5, 5 → 1, 1 → 4, 4 → 3, 3 → 2, 2 → 1}]
```

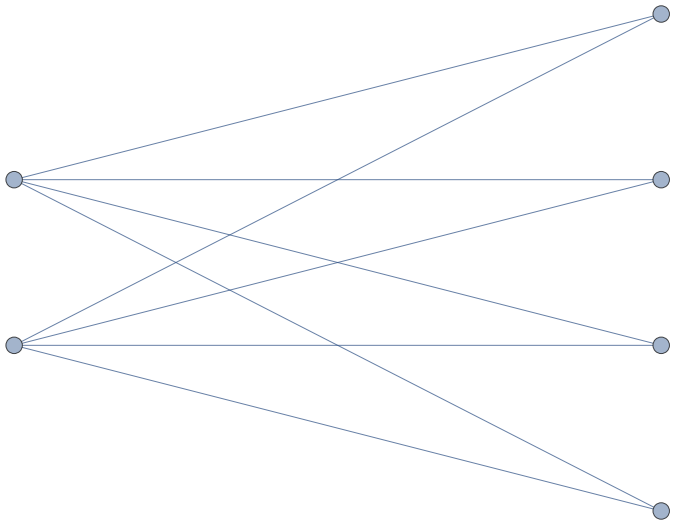
Out[18]=



Question 6

In[19]:=
```
g = CompleteGraph[{2, 4}]
EulerianGraphQ[g]
EulerianGraphQ[LineGraph[g]]
```

Out[19]=



Out[20]=

```
True
```

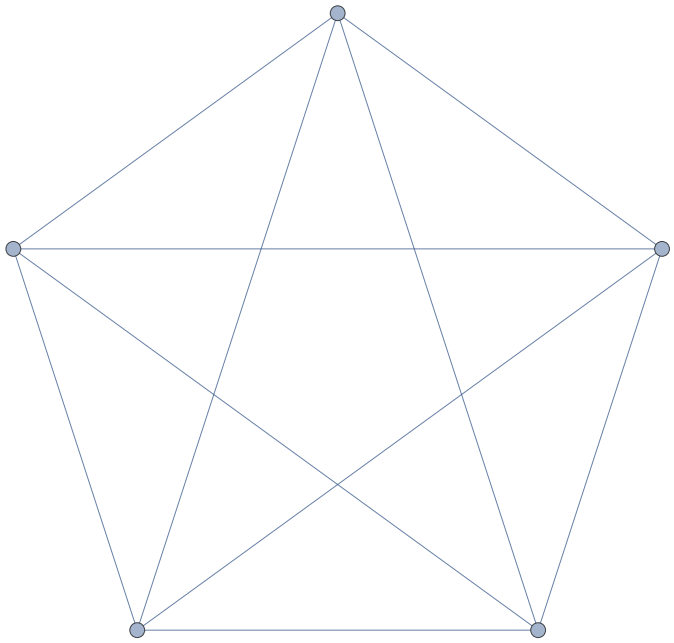
Out[21]=

```
True
```

Question 7

In[25]:=
```
g = CompleteGraph[5]
EulerianGraphQ[g]
HamiltonianGraphQ[LineGraph[g]]
```

Out[25]=



Out[26]=

```
True
```

Out[27]=

```
True
```