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Experiment No.: 10

## Problems

### Question 1

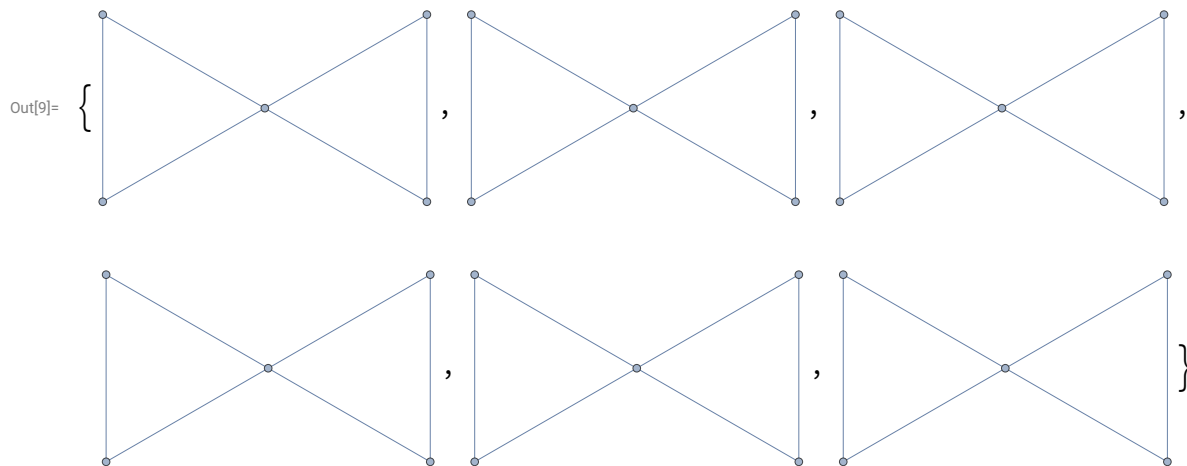
```
In[7]:= g = GraphData["ButterflyGraph"];  
FindEulerianCycle[g];  
Table[HighlightGraph[g, Part[First[%], 1 ;; i]], {I, Length[First[%]]}]
```

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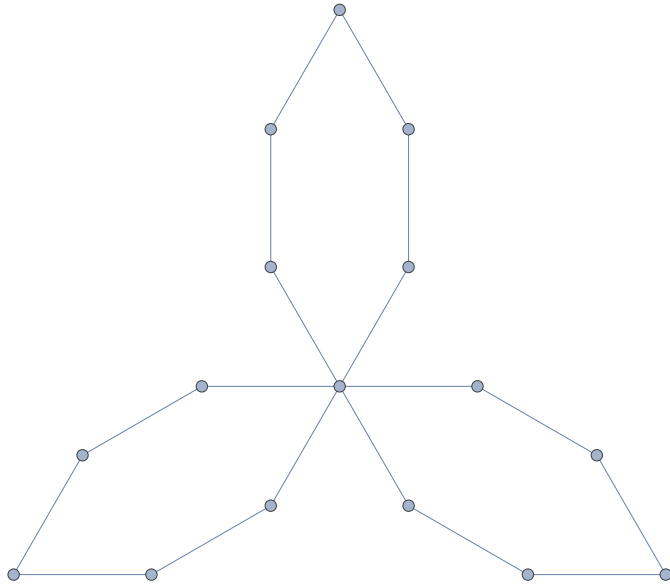
**General:** Further output of Part::span will be suppressed during this calculation.



### Question 2

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

Out[10]=



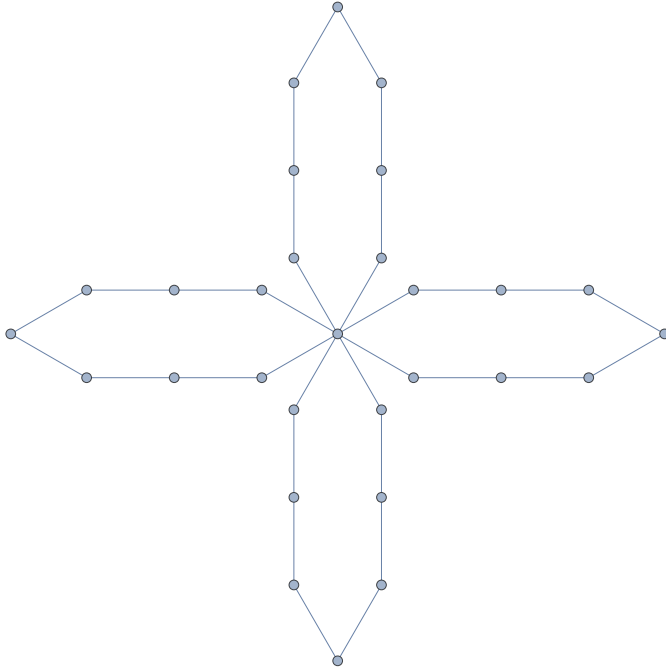
Out[12]=

True

Question 3

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

Out[13]=



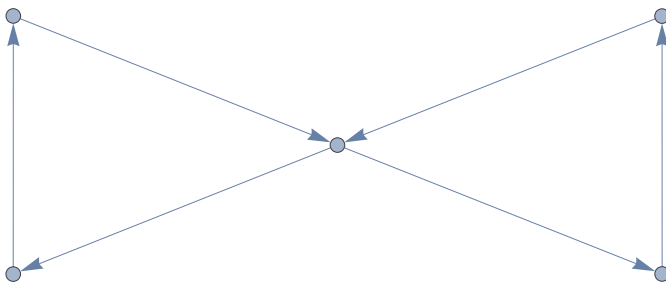
Out[15]=

True

#### Question 4

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

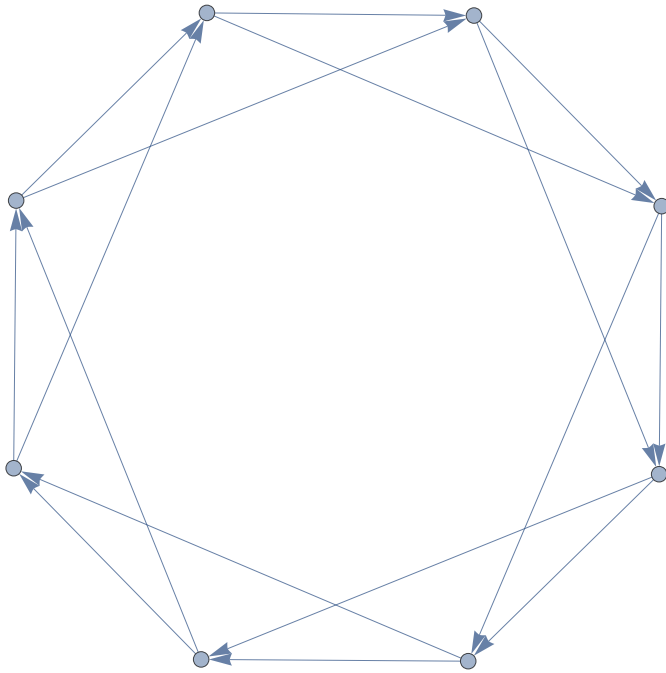
Out[17]=



#### 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}]
```

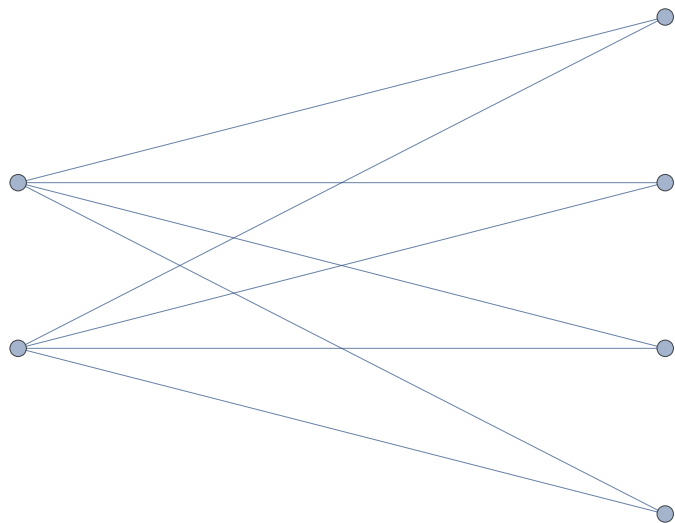
```
Out[18]=
```



Question 6

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

Out[19]=



Out[20]=

True

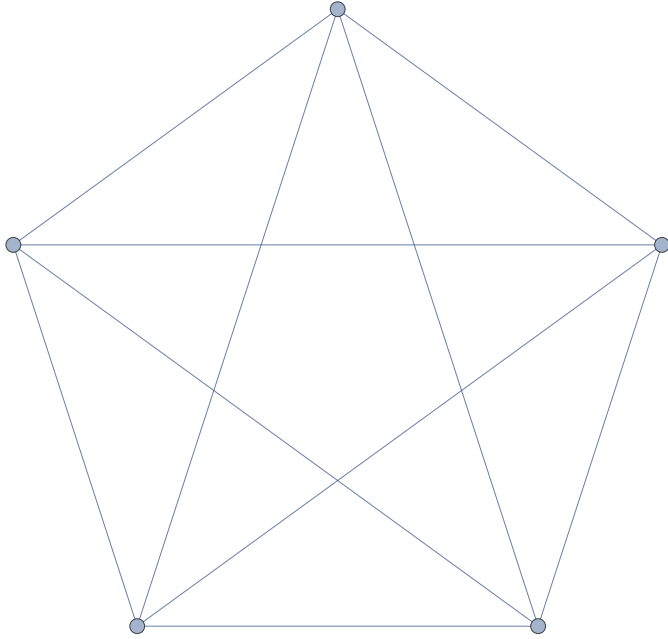
Out[21]=

True

Question 7

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

Out[25]=



Out[26]=

True

Out[27]=

True