▶ Problem 9.1-4(g)
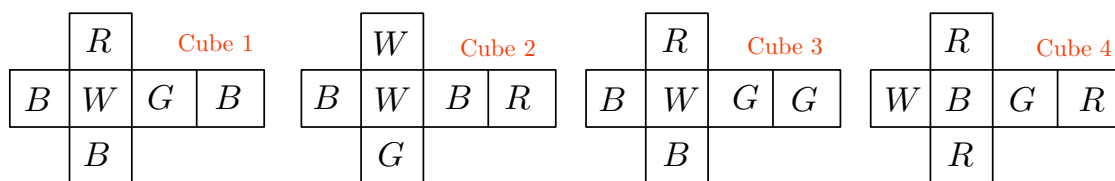
Find solution , where possible, for the cube games pictured in the following figure.

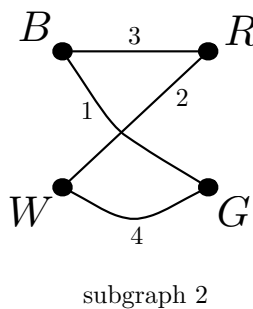|	
R	Cube 1

B	W	G	B

B

W	Cube 2

B	W	B	R

G

R	Cube 3

B	W	G	G

B

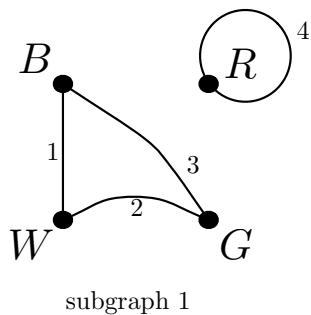|	
R	Cube 4

W	B	G	R

R

Solution. The following is the graph corresponding to the cubes.
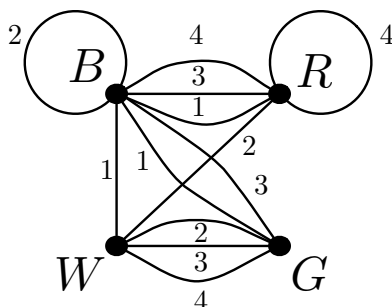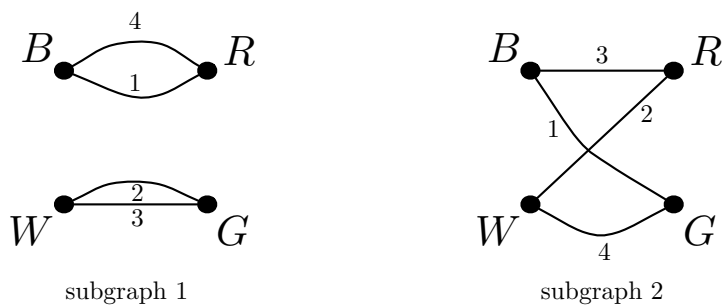

There are four solutions for this problem.

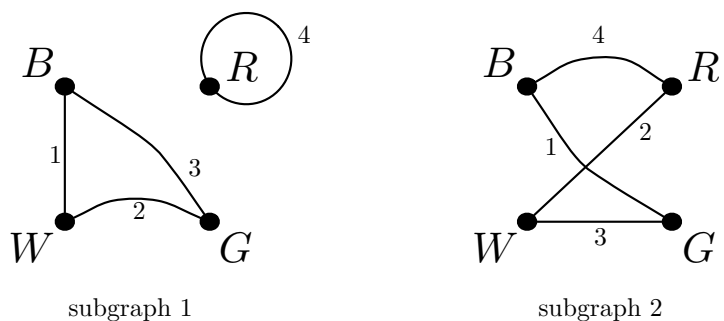**Solution 1**: The first pair of edge disjoint subgraphs are as follows.

subgraph 1

subgraph 2

	Front	Back	Right	Left
cube 4	R	R	G	W
cube 3	G	B	R	B
cube 2	W	G	W	R
cube 1	B	W	B	G

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Solution 2: The second pair of edge disjoint subgraphs are as follows.

subgraph 1

subgraph 2

	Front	Back	Right	Left
cube 4	B	R	G	W
cube 3	W	G	R	B
cube 2	G	W	W	R
cube 1	R	B	B	G

Solution 3: The third pair of edge disjoint subgraphs are as follows.

subgraph 1

subgraph 2

	Front	Back	Right	Left
cube 4	R	R	R	B
cube 3	G	B	G	W
cube 2	W	G	W	R
cube 1	B	W	B	G

Solution 4: The fourth pair of edge disjoint subgraphs are as follows.

subgraph 1

subgraph 2
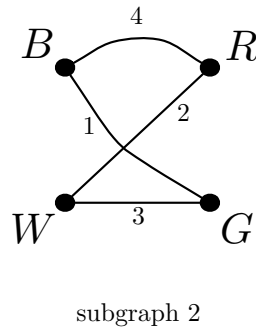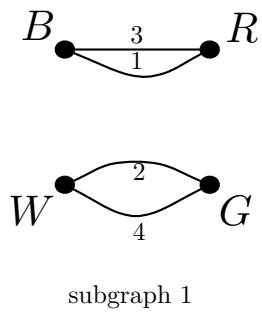
	Front	Back	Right	Left
cube 4	W	G	R	B
cube 3	B	R	G	W
cube 2	G	W	W	R
cube 1	R	B	B	G

□