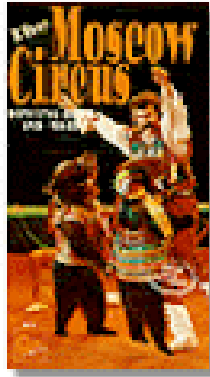


The Bears Problem



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|------------|------------|------------|--|------------|------------|------------|
| Black Bear | Black Bear | Black Bear | | Brown Bear | Brown Bear | Brown Bear |
|------------|------------|------------|--|------------|------------|------------|

In a particular Russian circus act there are six bears lined up on a mat with seven squares. In this act the Black Bears switch places with the Brown Bears following the given rules.

- Bears may move by sliding.
- Bears may move by jumping one bear.
- Brown Bears must move only from right to left.
- Black bears must move only from left to right.

Questions

1. Determine how this act is accomplished. Be sure to explain your thinking. What moves are made? How many moves are required to complete this trick?
2. How many moves would be required if there were 20 Black Bears and 20 Brown Bears on a mat with 41 squares? Explain how you determined your answer.