**Karel Project**

Divide a given map into 4 + 4 as shown in the diagram – Do all the analysis to handle the special cases. i.e. maps that can't be divided into the required shape because it's too small.

Notes:

- The inner chambers should be the biggest possible equals squares.

- The outer chambers should be equal in size, and they should be L-shaped (they shouldn't be rectangles or squares).

- You are allowed to use double lines of beepers if you need to, however, you need to observe that beepers use should be optimized.

Notes:

* Assume having enough number of beepers (say 1000) in Karel’s bag. You can use the API to setup an initial value of the beepers.
* You can’t use the classes API to solve the assignment, and you should be using only the functions given in Karel reference card. Karel is a black box that came out of the factory with certain capabilities according to it’s reference card. The only exception to that is initializing Karel’s bag with beepers.

Optimize your solution as follows:

* Karel should achieve his task with the lowest number of moves. Add a moves counter to your code and print it while Karel is moving.
* You should minimize the number of lines in your code to the lowest possible number of lines by writing reusable functions.
* Use the lowest possible number of beepers to achieve your task

Deliverables:

* Homework.java
* A report in pdf format that shows how you solved the problem and your optimizations.
* A video that explains your solution with the optimizations that is no longer that 8 mins. Start your video by running your code and showing how your solution works. Upload your video on Youtube as non-public listing and send the link only.
* In summary the deliverables are: Homework.java, report.pdf, and a link to Youtube video.