AP CS A – Karel J Robot Review Sheet Chapters 5-6

Name:	
Date:	Per:

- 1. List the 8 primitive predicates that can be used in an if clause:
- 2. In order for a new class (subclass) that you write to be able to use the 8 primitives above, the class must have been derived from the ______ class at some point in the inheritance chain.
- 3. When is each of the following iteration structures used? (true/false The choice of which loop construct to use (which tool) is an arbitrary decision left up to you and your preference.)
 - a) while _____
 - b) for _____

4. List the 4 steps for building a while loop. Also, in section 6.6, what are the 2 things we should ALWAYS check when writing any loop to help verify its correctness.

5. Write the correct form for the selection and iteration control structures. You should use generic statements such as <test> and <instructions>.

a) for	 	
b) while		
,		
c) if		
•) ==		

```
8. simplify
if (!nextToARobot())
return false;
else
return true;
```

9. Complete the following class, adding any additional methods you might need to help you (note: you should at this point be able to recognize which methods need further modularization and which can be written only in terms of primitives - please modularize where appropriate).

public class JumpHarvestAndTest extends Robot {

//precondition: robot is facing east and standing next to the base of an arbitrarily high hurdle //postcondition: robot is facing east and is standing on the other side of the hurdle at the base public void **jump**()

```
}
```

//precondition: there are an arbitrary number of piles of beepers in a line terminated with a wall segment – each pile has an arbitrary number of beepers x, such that 0≤x<infinity //postcondition:robot has picked up all beepers from the position it started at up to and including the intersection next to the wall public void harvestAllToWall()

{

}

}

Friendly reminder: In order to help ensure the reading of the chapter, we usually put a question or 2 from the reading (which we didn't cover in class) on the test. :-)