

Worksheet #6: Why should Future References be declared as final?

Name 1: _____

Netid: _____

Consider the pseudocode on the right with futures declared as non-final static fields. Is there a possible execution in which a deadlock situation may occur between tasks T1 and T2 with this code (with each task waiting on the other due to get() operations)? Explain why or why not.

```
1. static future f1=null;
2. static future f2=null;
3.
4. void main(String[] args) {
5.     f1 = async {return a1();};
6.     f2 = async {return a2();};
7. }
8.
9. int a1() { // Task T1
10.    while (f2 == null); // spin loop
11.    return f2.get(); //T1 waits for T2
12. }
13.
14. int a2() { // Task T2
15.    while (f1 == null); // spin loop
16.    return f1.get(); //T2 waits for T1
17. }
```

