CSC148:
ASSERTS & LOOP INVARIANTS

LOOP INVARIANTS
EXAMPLE: INSERTION SORT

```
WHILE i != len(L)
    ASSERT L[:i] == sorted(L[:i])
```
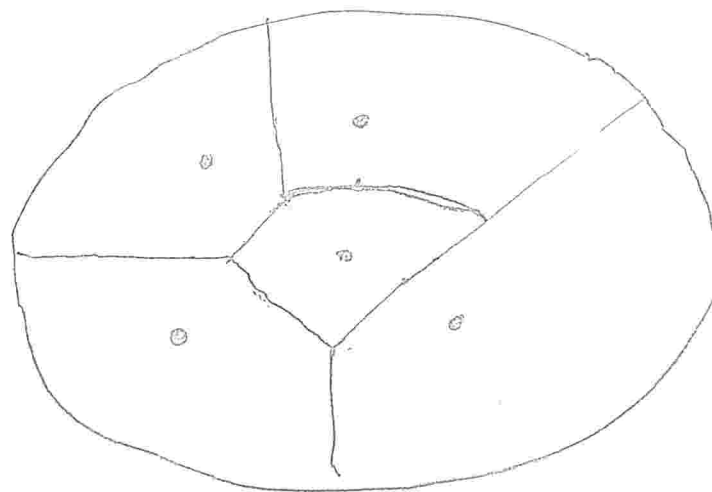
LOOP INVARIANTS ALLOW TO INTRODUCE A FORM OF CHECKPOSTS, BREAKING THE FLOW ON THE BREACH OF THE INVARIANT.

NOTE   SOME ASSERTS ARE SLOW. IT IS POSSIBLE, HOWEVER, TO RUN THE CODE WHILE IGNORING ASSERTS.

CHOOSING TEST CASES

NOTE THAT CHOOSING CHARACTERISTIC PROPERTIES IS MORE IMPORTANT THAN CHOOSING TEST CASES

INITIALLY CHOSEN PROPERTIES, HOWEVER, OFTEN DO NOT DEFINE THE PARTITION WITHOUT OVERLAP

DIVIDE AND CONQUER

① IDENTIFY THE PROPERTIES OF INPUTS WHICH SORT THEM INTO EQUIVALENCE CLASSES.

② VERIFY THE CODE WORKS FOR THESE CHARACTERISTIC TEST CASES