

Please fill in your Student Number and Name.

Student Number : _____



University of Cape Town ~ Department of Computer Science
Computer Science 1018F ~ 2008

Test 2

Question	Max	Mark	Internal	External
1	8			
2	12			
3	10			
TOTAL	30			

Marks : 30

Time : 40 minutes

Instructions:

- a) Answer all questions.
- b) Write your answers in the space provided.
- c) Show all calculations where applicable.

Question 1 [8]

a) What are the differences between the following Python statements: [3]

```
import struct
from struct import *
from struct import pack
```

b) What is multiple inheritance and does Python support it? [3]

c) Rewrite the following Python statement using a more conventional control structure: [2]

```
r = (a, b)[int(bool(a > b))]
```

Question 3 [10]

- a) Write python code for a *Bird* class which has a private boolean attribute *canfly* that is set during object creation. [3]

- b) Create a new class *Dodo* that inherits from the *Bird* class and automatically assigns *canfly* as *False* during object creation by calling the *Bird* initialization method. [3]

- c) Modify the *Dodo* class to include a method *Extinct()* that will report “Dodos are extinct” if there are no Dodo objects, “I am the last of the Dodos” if there is only one Dodo object and “I am not alone” otherwise. [4]
