

1997 Paper 2 Question 6

Computer Perspectives

You start using a new computer, which has an implementation of ML. You write a new ML program which is intended to produce a result of type `int`, i.e. an integer. You run it, and see on your screen (which we assume works properly) the following response:

```
1.99 : int
```

Discuss the following as possible reasons for the response:

- (a) your program is faulty
- (b) the computer's calculation with real numbers is inaccurate
- (c) the ML implementation is faulty
- (d) ML is a badly designed language

As part of your answer, discuss the assertion that “a type system is a way of ensuring that every program does what it was supposed to do”. [20 marks]