

2003 Paper 13 Question 10

Introduction to Functional Programming

(a) Explain the difference between lazy and eager evaluation, illustrating with an example. [5 marks]

(b) Given the following definitions

```
fun I x = x;
```

```
fun K x y = x;
```

```
fun S x y z = x z (y z);
```

give the most general type of each of the following five expressions:

(i) K

(ii) K I

(iii) S

(iv) S (K S)

(v) S S (K I)

[15 marks]