

MATH 1180
MATHEMATICS FOR LIFE SCIENTISTS
Computer Assignment IX
Due March 23, 2004

PROBLEMS

- 1. Consider the following joint probability distribution

	$S_1 = 1$	$S_1 = 2$
$S_2 = 2$	0.4	0.0
$S_2 = 4$	0.1	0.5

We can enter it into Maple with the commands

```
> v2 := [[1,2],[1,4],[2,2],[2,4]];
> p2 := [0.4,0.1,0.0,0.5];
```

The values are hidden as follows: $v2[1][2]$ is the second component (the value 2) of the first entry in the list $v2$. Experiment with this until it makes sense. Use the **sum** command to find the following.

- Find the means of S_1 and S_2 .
- Find the variances of S_1 and S_2 .
- Find the covariance of S_1 and S_2 .
- Find the correlation of S_1 and S_2 .