

## Operating systems, security and networks (207SE)

### Lab 19: Security

In this portfolio activity we will consider the issues of protection and security in operating system by considering approaches to control access to resources, password systems and encryption.

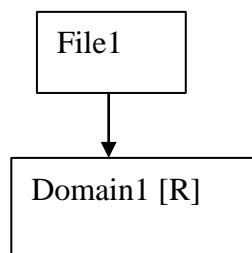
#### Activity 1

1. Create a protection domain matrix, access list and capability list for the diagram below.

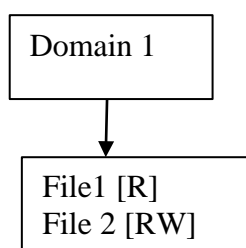


protection domain matrix								
	File1	File2	File3	File4	File5	Printer	Screen1	Mouse
D1								
D2								
D3								

#### Access-list (Column)



#### Capability-list



2. Create a basic salted-hash function in a programming language of your choice that takes a password as a string and produces a pseudo-random integer based on that string. You could devise your own approach to create this function or you could
  - (i) take each letter of the string and converting it to its ascii value,
  - (ii) multiple it by a specific number based on its position in the string sequence,
  - (iii) add the values together and add salt in such as the current date.

### **Marks**

Activity 1 – 2 marks

Activity 1 and 2 – 5 marks

### **Evidence**

Protection domain matrix, access list and capability list

Commented code and output showing your salted- hash function working