**COMP718 Tutorial - Information Security Models**

**Task 1**

The basic rules s of the Bell-LaPadula and Biba access control models are described below. Study the descriptions and answer the questions posted in the table below.

Bell-LaPadula Confidentiality Model:  **“no read up, no write down”**

* The ‘simple security’ BLP propertyprevents the flow of information from a level of higher security to a level of lower security: a subject at a lower clearance cannot read an object at a higher clearance level but a subject at a higher clearance level can read an object at a lower clearance Level
* The BLP \* (star) property: prohibits a subject at a f higher clearance level to write to an object at a lower clearance level

The Biba Integrity Model: “**higher levels of integrity are more trustworthy than lower levels”**

* The simple integrity property: a subject can have read access to an object only if the security level of the subject is lower or equal to the one of the object.
* The Biba (integrity) \* property: subject can write to an object only if the security level of the subject is equal to or higher than that of the object.

**Questions**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Subject** | **Object** | **BLP Simple security property y** | **BLP \* security property** | **Biba simple integrity property** | **Biba \* integrity property** |
| John BLP 5 | Book 1 BLP4 | Can John read Book 1? | Can John write to Book 1? | ------- | ------ |
|  |  | YES | NO |  |  |
| John BLP 5 | Book 2 BLP 6 | Can John read Book 2? | Can John write to Book 2? | ------- | ------- |
|  |  | NO | YES |  |  |
| Mary Biba 5 | Book 3 Biba 4 | ------- | ------- | Can Mary read Book 3? | Can Nary write to Book 3 ? |
|  |  |  |  | NO | YES |
| Mary Biba 5 | Book 4 Biba 6 | ------- | ------- | Can Mary read Book 4? | Can Mary write to Book 4 ? |
|  |  |  |  | YES | NO |

**Answers: (delete can or cannot , as appropriate)**

* John (BLP 5) **CAN** read Book 1 (BLP 4)
* John (BLP 5) **CANNOT** write to Book 1 (BLP 4)
* John (BLP 5) **CANNOT** read Book 2 (BLP 6)
* John (BLP 5) **CAN** write to Book 2 (BLP 6)
* Mary (Biba 5) **CANNOT** read Book 3 (Biba 4)
* Mary (Biba 5) **CAN** write to Book 3 (Biba 4)
* Mary (Biba 5) **CAN** read Book 4 (Biba 6)
* Mary (Biba 5) **CANNOT** write to Book 4 (Biba 6)

**Question:** If you are to select one of these access control methods, to be implemented in an organization similar to AUT, which one you will choose and why?

**Task 2**

Study the AWS report found at <https://d1.awsstatic.com/whitepapers/compliance/AWS_Data_Classification.pdf> and also available in Canvas.

Using the data classification schemes presented in the document, create a data classification scheme for a sample of the information contained in yourpersonal computer, and provide examples for each of the levels of your data classification scheme.