

# Bell-Lapadula model/DAC

## Exam Question

A company is implementing Bell-Lapadula model for access control. Below are the access control matrix and the classifications of various objects and people. After going through them answer the following questions. Make sure to show the decision process that led to your answer.

	Bob	Chris	Amy	Laura
Salaries	write, read		write, read	read
Vacations		write, read		
Building map	read	read	read	write, read
Orientation	read	read	write, read	

- Salaries is a top-secret file
- Vacations is a secret file
- Building map and Orientation are unclassified
- Bob and Chris have secret clearance
- Amy has top-secret clearance
- Laura has confidential clearance

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1. Which files can Bob read?

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1. Which files can Bob read?

MAC: Bob can read Vacations, Building map and Orientation

ACM: Bob can read Salaries, Building map and Orientation

➔ Bob can only read Building map and Orientation

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2. Who can read Building map?

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## 2. Who can read Building map?

MAC: Amy, Bob, Chris and Laura can read Building map

ACM: Amy, Bob, Chris and Laura can read Building map

➔ **Anyone (Amy, Bob, Chris and Laura) can read Building map**

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3. Who can write Vacations file?

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### 3. Who can write Vacations file?

MAC: Bob, Chris and Laura can write Vacations file

ACM: Only Chris can write Vacations file

➔ Only Chris can write Vacations file



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4. How can we grant to Laura permission to read the Vacations file?

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4. How can we grant to Laura permission to read the Vacations file?

**MAC:** Laura needs to be given Secret clearance

**ACM:** Laura needs to be given Read access