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HW 2
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CSCI 631
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1. Given security levels TOP SECRET, SECRET, CONFIDENTIAL, and UNCLASSIFIED (ordered from highest to lowest) and the categories A, B, and C, specify what type of access (read, write, both, or neither) is allowed in each of the following situations. Assume that discretionary access controls allow anyone access unless otherwise specified.

   a. **Paul, cleared for (TOP SECRET, {A, C}), wants to access a document classified (SECRET, {B, C}).**
      Paul is neither able to read from nor write to this document because while his security level is greater than the document's, his categories are not a subset of the document's categories. Therefore Paul does not dominate the document and cannot read. He also cannot write to the document because his security clearance is greater than the document's security classification.

   b. **Anna, cleared for (CONFIDENTIAL, {C}), wants to access a document classified (CONFIDENTIAL, {B}).**
      Anna is neither able to read from or write to this document because while her security level is equal to the document's, her category is not a subset of the document's category. Therefore Anna does not dominate the document and cannot read. She also cannot write to the document because her security clearance is greater than the document's security classification.

   c. **Jesse, cleared for (SECRET, {C}), wants to access a document classified (CONFIDENTIAL, {C}).**
      Jesse can read but not write to the document. They can read because they dominate the document by having greater clearance and the document's category is a subset of Jesse's. They cannot write because Jesse's security clearance is greater than the document's security classification.

   d. **Sammi, cleared for (TOP SECRET, {A, C}), wants to access a document classified (CONFIDENTIAL, {A}).**
      Sami can read from the document because they dominate the document - the document's security level is less than Sammi's and the document's category is a subset of Sammi's. Sammi cannot write to the document because their security clearance is greater than the document's security classification.

   e. **Robin, who has no clearances (and so works at the UNCLASSIFIED level), wants to access a document classified (CONFIDENTIAL, {B}).**
      Robin cannot read from the file because the document's category is not a subset of Robin's but Robin can write to the document because their security clearance is less than the document's.