PA11_w7

New Attempt

Due Monday by 3pm **Points** 5 **Submitting** a file upload **File Types** pdf
Available Oct 22 at 3:30pm - Oct 25 at 3pm 3 days

This is a participation activity associated with the lecture on Friday Oct 22. Please submit by the start of the lecture on Monday (by 3:00 PM) to Canvas. This is individual work.

For this activity you will be submitting a pdf file. So write/type up your solution and convert to pdf before submitting to Canvas. No late submission is accepted.

This PA will be marked based on the reasonable effort you put to answer the questions, not necessarily their correctness.

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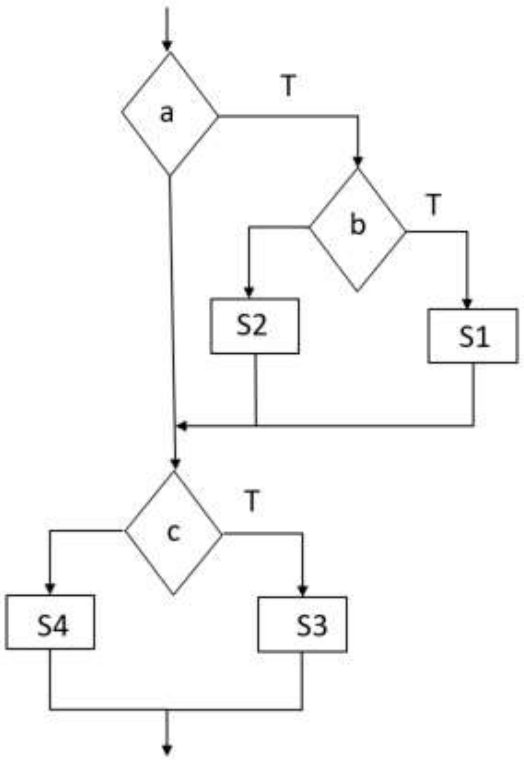
Consider the following code and its flowchart (from slide 7b-10), and then answer the following three questions.

```
if (a)
{
    if (b)
    {
        S1;
    }
    else
    {
        S2;
    }
}
if (c)
{
    S3;
}
else
{
    S4;
}
```



1. Write a minimum number of test cases needed to have statement coverage.
2. Write a minimum number of test cases needed to have branch coverage.
3. Write a minimum number of test cases needed to have path coverage.

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Hint 1:

Note that each of *a*, *b*, or *c* is a Boolean expression.

So for example, one test case we can choose is: *a=true*, *b=true*, and *c=true,* and by choosing this test case we will cover S1 and S3.

Hint 2:

Clearly differentiate between statements, branches, and paths. For example, choosing *a=false* will choose a branch that skips checking *b* entirely, so neither of *S1* or *S2* is covered.