Class Activity (testing coverage)

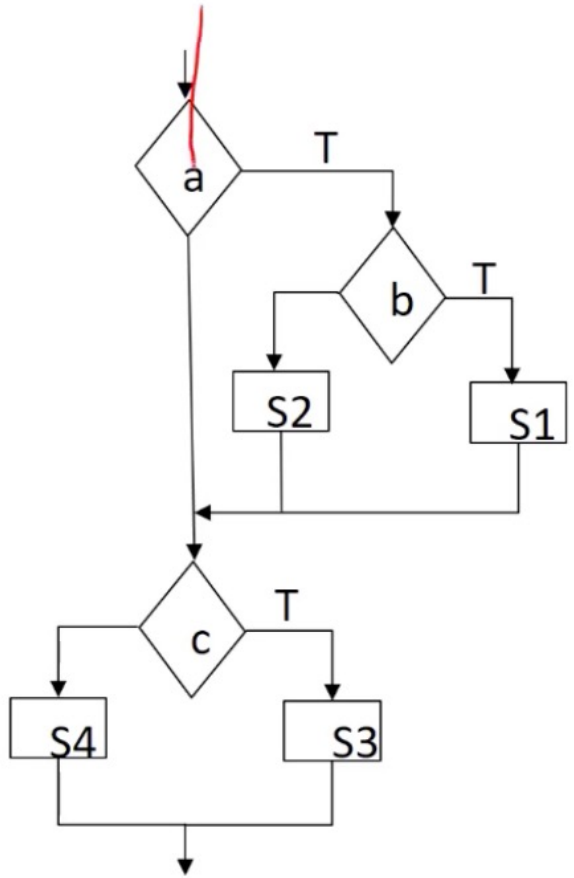
- Write a min # of test cases to have statement coverage.

We will need 2 test cases:

- Test case 1:
  - *a=true, b=true, c=true*
    - This covers S1 and S3
- Test case 2:
  - *a=true, b=false, c=false*
    - This covers S2 and S4

The above is not the only possible solution.

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



Class Activity (testing coverage)

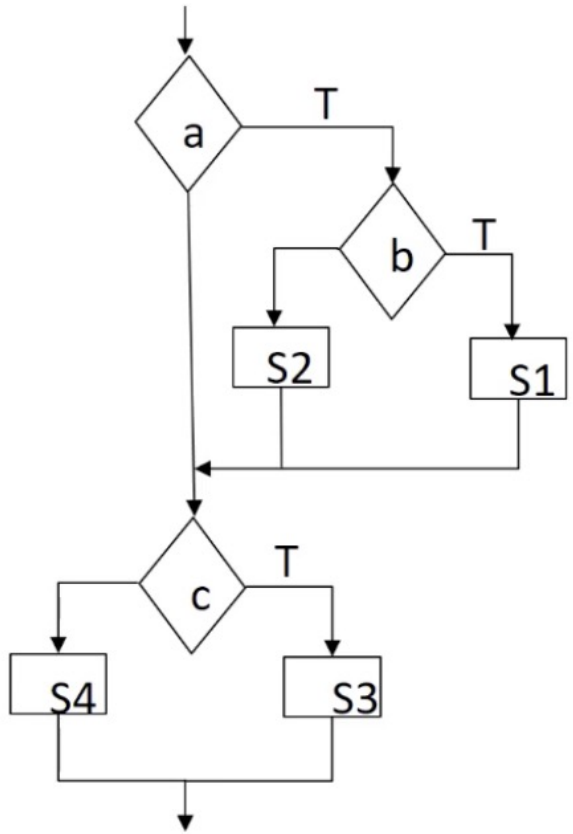
- Write a min # of test cases to have branch coverage.

Our tests from the statement coverage cover all branches except one (*a* being false), so:

We will need 3 test cases:

- Test case 1:
  - a=true, b=true, c=true
    - This covers S1 and S3
- Test case 2:
  - a=true, b=false, c=false
    - This covers S2 and S4
- Test case 3:
  - a=false (c can be true or false)

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



Class Activity (testing coverage)

- Write a min # of test cases to have path coverage.

There are 6 possible paths

All possible paths are:

a=true, b=true, c=true

a=true, b= true, c=false

a=true, b=false, c=true

a=true, b= false, c=false

a=false, c=true

a=false, c=false

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