

In this project we will build on the previous program to help a math student solve triangles, this time adding the SAS, ASA and ASS cases. Previously we considered the SSS case where all three sides are specified, either as lengths or as distances between three coordinate pairs.

Again, start by using the cout command from the iostream library to tell the user what the program is designed to do:

```
This program is designed to solve triangles using the
* SSS (side, side, side),
* SAS (two sides and the included angle),
* ASA (two angles and the included side) and
* ASS (the given angle is not included between the two given sides) methods.
```

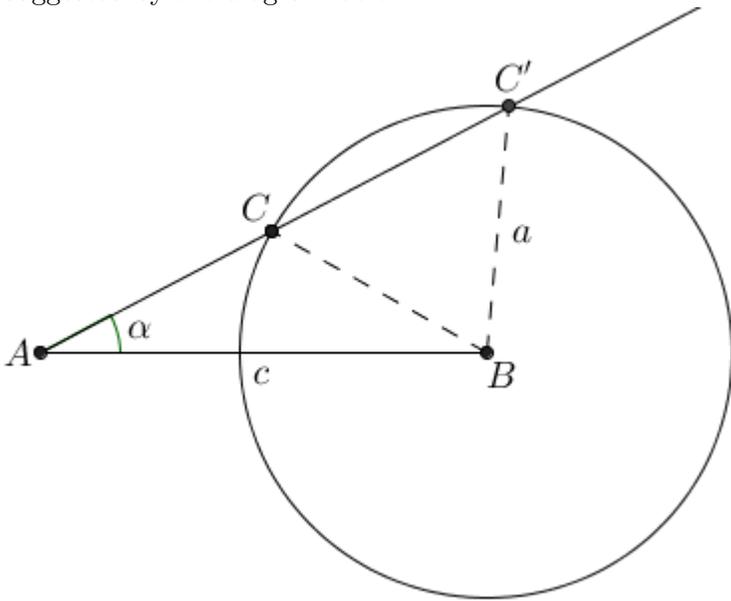
Then (again, using cout), prompt the user to specify which set of given information they want to specify. Use the switch statement, as outlined below:

```
do {
    cout << "\n1. Three vertices."
        << "\n2. Three edge lengths."
        << "\n3. Two edges and the included angle."
        << "\n4. Two angles and the included edge."
        << "\n5. Two angles and the side opposite the first angle.";
    cin >> choice;
    if(choice<1 || choice>5)
        cout << "\nThat's not a good choice, try again: ";
} while(choice<0 || choice>5); /// keep prompting until legal choice selected
switch(choice) {
case 1: {
    \\...
}
case 2: {
    \\...
}
case 3 : {
    \\...
}
\\...
case 5 : {
    \\...
}
}
```

This should produce a menu something like this:

```
This program is designed to aid in the analysis of triangles.
Please select the number for the given information you have for your triangle:
1. Three vertices.
2. Three edge lengths.
3. Two edges and the included angle.
4. Two angles and the included edge.
5. An angle, a side adjacent to the angle and a side opposite the angle.
```

As you may recall from trigonometry, the tricky case is the “ASS” case, where there may be 2, 1 or 0 solutions, as suggested by the diagram below:



Include as a comment at the end of your code the results of a trial run or two like that shown above. Send your `.cpp` file to my email address with the format `<your initials>_trianglesI.cpp` by Tuesday, September 20 at 2:00pm.