# Geometry Calculator Design Template

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## 1. Intro

Program will prompt user for choice of which area to calculate, which numbers to use in the calculation, and display the results. Also, verify if the numbers are of the appropriate type for calculation.

## 2. Use Cases

Use Case: Typical - All entries correct

1. Program displays a set of instructions for the rest of the program.
2. Program displays a menu.
3. Verifies menu option.
4. Prompts for the area the user would like to calculate.
5. Program requests numbers to plug into the equation for desired calculation.
6. Program verifies the validity of the numbers.
7. Once program approves, user validates entries as correct using a simple Y or N char.
8. Program displays result.

Use Case: Typical - Incorrect menu.

1. Program displays a set of instructions for the rest of the program.
2. Program displays a menu.
3. Verifies menu option.
4. Prompts for the area the user would like to calculate.
5. Outside the range. Prompts again. Verifies again.
6. Program requests numbers to plug into the equation for desired calculation.
7. Program verifies the validity of the numbers.
8. Once program approves, user validates entries as correct using a simple Y or N char.
9. Program displays result.

Use Case: Error

1. Program displays a set of instructions for the rest of the program.
2. Program displays a menu.
3. User enters a letter instead of a number.
4. Error.

## 3. Design Overview

Calculate the area of a circle, triangle, or rectangle.

Display result

Perform calculation

Prompts w/ inputs

Menu w/ instructions

Verify option

Obtain second number

Obtain first number

Verify number

## 4. System Tasks Descriptions

Function: main

Prompts

Input menu option

Validate menu option

Case structure for menu

Boolean for validation of menu

Boolean for validation of numbers

Perform calculation

Display result

If num1 <= 0 then FALSE and redo.

If menu option < 1 OR > 4 then FALSE and redo.