

## Decision Making

1. Design and code a program which prints out the larger of two floats taken in from the user
2. Design and code a program which prints out the larger or smaller of two integers depending on whether the user types in a 1 (for larger) or 2 (for smaller).
3. Design and code a simple password program which checks user input of a (long) integer against a (long) integer held in the password program. Print out appropriate messages.
4. Design and code up a program which takes from the user a number (a float) and a choice (an int). The user's number is used as the radius of a circle. If the user's choice is 1, the area (of the circle) is displayed and if it is a 2, the circumference of the circle is displayed.

HINT (you should be ashamed if you need this !)

Area =  $\text{PI} * \text{radius} * \text{radius}$

Circumference =  $2 * \text{PI} * \text{radius}$

5. Re-write the program so that it takes from the user a number (a double) and a choice (but this time a char), i.e If the user's choice is 'a', the area (of the circle) is displayed and if it is a 'c', the circumference of the circle is displayed.  
*Optional Part* (for those with a knowledge of loops)  
Add an initial loop before the calculation choice, which will loop through the choice entry until either an 'a' or a 'c' has been entered.
6. Write a program which will simulate the opening of a bank's strong room. The user should enter an integer for day of the week (0=Sunday, 1=Monday ...). Next the user is prompted for the presence of the three bank directors, who are the Managing Director and his/her two Deputy Managers. The rule for the opening of the strong is as follows:
  - a. Mon-Fri: Any single manager has authority
  - b. Saturday: Either the Managing Director or BOTH of the Deputies
  - c. Sunday: All three Managers must be present

This program uses the logical operators && and ||

*Optional Part* (again, for those with a knowledge of loops)

Add an initial loop before the strong room opening decision, which will loop through the day entry until either an 0..7 is entered.