Implement an algorithm to determine if a given year is a leap year. A leap year is divisible by 4, but not divisible by 100, except if it is also divisible by 400.  
  
  
1. Ask the user to enter YEAR

2. if the year%4==0 AND year%100 NOT=0 AND year%400==0

3. print the year is a leap year

4. else print that year is not a leap year  
  
5- display the desired output to user

Implement an algorithm to count the number of occurrences of each character in a given string.  
  
  
1. Ask the user to enter a string

2. Breakdown the string in each character.  
3- store each character in a variable.  
4. Make a variable of count and set to 1

5. if the subsequent character differs from the previous character repeat step 3  
6- else if the variable are the same increment the value of count for that variable.  
7-repeat the step until last character of string is evaluated.  
8- display each value of count for each corresponding character of user

Find the median of three given numbers.  
  
1- ask the user to enter three numbers a, b, c  
2- if a>b and a<c then median is a.  
3- if a>b and b>c then median is b  
4- otherwise median is c.  
5- if b>=-a and b<c then median is b. a>c  
6- if b>=a and a>c median is a  
7- otherwise median is c.  
8- display the median as output.

Calculate the area of a circle given its radius r.  
  
1- ask the user to enter radius r  
2- set the value of pi to 3.142  
3- calculate area using the formula pi\*r\*r  
4- store the result in variable ‘area’  
5-dsiplay the area.

Write an algorithm to calculate x raised to the power y (i.e., x y ) without using built-in

power functions.  
  
1- ask the user to enter two numbers x and y  
2- multiply the number x by itself the number of times stored in the y and store it in the variable ‘valuye’  
3- if user enters y equal; to zero then answer is equal to one.  
4- display the result stored in ‘value’.