Assignment 1

1. Ask User to enter length & unit of measure of a cube. Print perimeter of a side, volume & surface area.

2. Write a program that accepts an integer (n) and computes the value of n+nn+nnn+nnnn+nnnnn.

3. User will enter a value(year). Print if that is a leap year or not.
   a. *Any number which can be divided by 4 is a leap year (2016, 2020, 2024)*
   b. *Except if that can be divided by 100 (2100, 2200, 2300 are not leap year)*
   c. *But if that is possible to divided by 400 then it is a leap year (2000, 2400, 2800)*
   d. *Why this is → Earth will take 365.242375 days to rotate, but we say 365 days for a year*

4. Create a program to build a simple calculator using switch Statement. Initially, user will enter 2 values. Then ask for the operation (+,-,*,/,%). Then print the result. *Handle the errors (like % can't use with doubles…).*

5. Find the lucky number by taking user's birthday as an input. Use following format to input birthday
   YYYYMMDD -19850217. → lucky number is 6.
   (19850217 → 1 + 9 + 8 +5+0+2+1+7= 33 →3+3 = 6)

6. There are 45 students in a classroom & 25 are boys. 80% of the total students has passed the exam. Also, it says 2 girls are failed. Now find out how many boys has passed the exam.

7. Write a program that accept integers from user. Whenever user enter 0 it prints the output & exit the program. If the input is greater than 10 add reminder of 10 to final answer, if the input is even number add 2 more final answer. If the input is odd add 1 more to final answer. If number is negative ignore it. If number is divisible by 3 add 3 to final answer. Any positive number will be added to final answer. Design the algorithm to support above scenario & create a program.

8. There is a requirement to create a new **Student Evaluation System** for a school to verify students' marks by themselves. First, system will ask **username (**String**)** & **student ID (**number**)**. Then it asks you to enter marks for 3 subjects. Then system should print some messages according to entered vales. If student scores less than 50 for any subject, then he is repeated all 3 subjects (Means that he has got failed the exam). Therefore, print whether he should do repeat exam or not. Then, if average mark is higher than 75 then print "**Very Good**", 50 ~ 74 print "**Good**", 35~49 print "**average**" otherwise, print "**Fail**". Also, if he scored above 90 for all subjects, he would get a **first class**. System should handle errors, like if user enter invalid marks (-10, 120) for a given subject, system will show error message and ask to enter again. But if the 2nd time also user entered an invalid number, then system shows an error message & value will be set to zero for that subject automatically. Finally print the details in "nice" way. (*You may or may not use array support)*