Lab Two

ID1303: Introduction to Programming

1. **Write a program that accepts a year between 1900 and 2100 and prints the day of the week for Jan 1 of that year.**

   Hints: Let N be the number of days between the user's date and Jan 1, 1900, which is a Monday. Then find N modulo 7, which in the C language is $N\%7$.

   Example: Let's say the user's year is 2017. Note that $365\%7 = 1$, so for each year of gap, add 1 to N. Thus, we set $N = 117$. Now leap years each add 1 more to the count, and the number of leap years in [1900,2017] is 29. Thus, we set $N = 117 + 29 = 146$ and $N\%7$ is 6. Six days after Monday is Sunday, thus Jan 1, 2017 is a Sunday.

   Note that 2000 is a leap year, but 1900 is not.

2. **Write a program that lets the user play a quiz with more than one question and each question having 4 choices from which the user picks one.**

   Give a score for the quiz (eg: 1 point for each correct answer), and tell the user their score. Optionally print a message after every question, indicating whether their answer is correct or not.

3. **Write a program that accepts a positive integer n from the user and prints all the square numbers in the interval $[1, n]$.**

   For example, if $n = 50$, then the output is 1,4,9,16,25,36,49.

Relevant sample programs:

For use of if...else, see maxTwo.c

For use of getchar, see typeZ.c

For use of while loop, see count.c, and oddNumbers.c

For use of colors, include the "colors.h" file and use as in colorExample.c