**C++ Practical 1**

**Deadline : 14th of Oct @9am**

All code must be consistently indented and variables given appropriate names.

Your name and student number must be at the top of every file.

You cannot use Strings or arrays**, only chars and ints.**

Example

Use cout to output to the screen. Use cin to input from the keyboard.

You must upload the code to blackboard before **14th of Oct @9am** even if not all the questions are completed. You will be unable to upload any code after that time.

If no code is uploaded, you receive Zero for the lab.

If you don’t demo the code you get Zero for the lab!

**You must both demo** the lab and **upload the code** to get a mark.

The demo is after the deadline.

When you are demoing the lab, you will be asked questions about the code.

Upload the code to blackboard.

**Use the code called Lab1.cpp** in this folder on blackboard, to complete the following 9 functions

1. Write a C++ function to Check if an inputted year is a Leap Year.

To determine whether a year is a leap year, follow these steps:

1. If the year is evenly divisible by 4, go to step 2. Otherwise, go to step 5.
2. If the year is evenly divisible by 100, go to step 3. Otherwise, go to step 4.
3. If the year is evenly divisible by 400, go to step 4. Otherwise, go to step 5.
4. The year is a leap year (it has 366 days).
5. The year is not a leap year (it has 365 days).
6. Write a C++ function to Check Whether a Number is Palindrome or Not
7. Write a C++ function to Check Whether a Number is Prime or Not. A prime number is a number only divisible by itself and 1.
8. Write a C++ function to Convert Binary Number to Decimal without using the shift operator.
9. Write a C++ function to convert chars 0-9 input from the keyboard into an integer number. Example enter in 145 as chars and convert to the int 145. The function should return 0 if any of the chars are not digits.
10. Write a nested loop that outputs the following. This nested loop contains only 2 for loops.

A

AA

AAA

AAAA

1. Write a nested loop that outputs the following. This nested loop contains only 2 for loops and at most 1 if and an else conditional statement.

A

AA

AAA

AAAA

AAA

AA

A

EXTRA:

1. Write a nested loop that outputs the following. This nested loop contains only 2 for loops, and no conditional statements.

A

AA

AAA

AAAA

AAA

AA

A