CMPSC 122 – Intermediate Programming

Assignment #1

Spring 2016

Due Date: Thursday, January 28, 2016

Total Points: 100

Question 1 (25 points)

Write a function that returns True if one number evenly divides another and false otherwise. Do not use any local variables.

Question 2 (25 points)

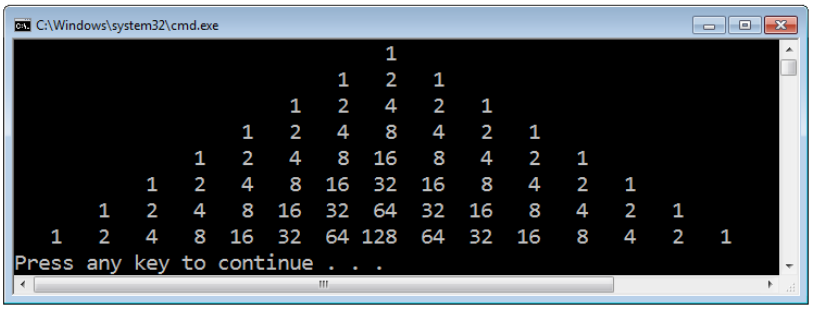
Write a function with the following header:

```
int reverse (int number)
```

that takes an integer value and returns the number with its digits reversed. For example, given the number `7631`, the function should return the number `1367`.

Question 3 (25 points)

Write a program that uses a nested *for* loop to print the following output:



Question 4 (25 points)

Suppose we have in the main function of a program two double pointers with valid addresses stored in them. The purpose of the program is to swap the contents of these pointers using a function call *swapPointers*. Write the *swapPointers* function so the program below works properly. It is your choice whether the arguments of *swapPointers* are passed by value or by reference.

```
int  main()
{
        double a = 77.7;
        double b = 25.3;

        double* p = &a;
        double* q = &b;

        cout << "content of p: " << p << endl;
        cout << "content of q: " << q << endl;
        swapPointers(  ,  );
        cout << "content of p: " << p << endl;
        cout << "content of q: " << q << endl;
        return 0;
}
```

Output:

```
content of p: 0xff969b08
content of q: 0xff969b00
content of p: 0xff969b00
content of q: 0xff969b08
```

What to hand in

Submit your project electronically through Angel. Please hand in the following:

- C++ source file (*.cpp* file) that you implemented for *Questions 1, 2, 3, 4*
- Please follow the documentation rules (adding comments) that are described on the syllabus