Instructions:
1. Create a folder. The name of the folder is your UWI student Id number.
2. Create and test the programs as detailed below.
3. The *names* of the programs should be as indicated in each question.
4. All programs must be saved in the folder created above.
5. Zip the folder and upload the zipped folder to myeLearning no later than **October 15th, 2017 at 11:00 pm.**
6. Absolutely no late or emailed submissions will be accepted.

Topics: for loops, Input/Output, variable types and manipulation

Question 1

Write a program to draw a house on the screen as shown below. The user inputs the height of the roof and the height of the walls of the house.


Roof

The roof of the house is triangular in shaped and is drawn using asterisks and spaces. The height entered by the user is the number of rows of asterisks that need to be drawn. For example if the user enters a height of 6 the roof shown is drawn.

Walls

The walls of the house are drawn using vertical lines (|). The height entered by the user is the number of rows of vertical lines that need to be drawn. The walls do not start from the edge of the roof. The roof is one asterisk indented at both ends.
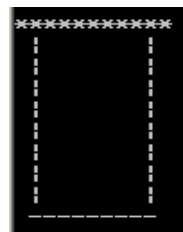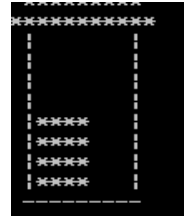

Floor

The floor of the house is drawn using horizontal lines (-). The length of the line drawn is the same as the width of the walls.

Door

The door of the house is drawn using asterisks. It is drawn to the left of the house. The door begins when half the walls have been drawn. The width of the door is half the width of the walls of the house.

House.cpp

Download the file House.cpp from myeLearning.

House.cpp contains fours functions:

printStar(int numStars)	This function prints numStars asterisks on the screen
printSpace(int numSpaces)	This function prints numSpaces spaces on the screen
printHorizontal(int numHorizontal)	This function prints numHorizontal dashes (-) on the screen
printVertical(int numVertical)	This function prints numVertical lines (|) on the screen

Do ***not*** alter the code in these functions.

You are to use this code to draw the house. All of your code is to be written in the **main** function of House.cpp.

The program below shows how to use the functions found in *House.cpp*

```cpp
int main(){
    printStar(5); //prints 5 asterisks on the screen
    cout<<endl;

    printSpace(6); //prints 6 spaces on the screen
    cout<<endl;

    printHorizontal(8); //prints 2 dashes on the screen
    cout<<endl;

    printVertical(1); //prints 1 vertical line.
    cout<<endl;

    return 0;
}
```
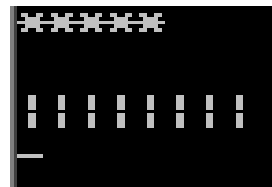
COMP 1601: Programming 1
Assignment #2
Date Due: 15th October, 2017 @11pm

At the beginning of 1952, the seal population numbered P seals. Each year B% seals are born. Due to overhunting of the seals for oil, and overfishing of their food sources there is a decrease S% of seals each year. Oil spills and disease also contribute to the decline of the seal population. This leads to another D% of seals dying each year.

Write a program, Seals.cpp, that accepts as input P, B, S and D and starting from the year 2007 up to 2017, prints a table with the year, the number of seals that died during the year due to overhunting, the number of seals that died due to disease and oil spills, the number of births for that year and the new population at the end of the year.

For example, if the current population is 650000 seals and there is a 5% birth rate, 10% death rate due to overhunting and a 15% death rate due to oil spills, the following table should be produced:

```
Enter the current population: 650000
Enter the % of seals born each year : 5
Enter the % of seals that die due to over hunting: 10
Enter the % of seals that die due to disease and oil spills: 15

Year           Deaths         Deaths        Births           Current
               (Over Fishing) (Oil Spills)                   Population
----------------------------------------------------------------------
2007           0              0             0                650000
2008           97499          65000         32500            520001
2009           78000          52000         26000            416001
2010           62400          41600         20800            332801
2011           49920          33280         16640            266241
2012           39936          26624         13312            212993
2013           31948          21299         10649            170395
2014           25559          17039         8519             136316
2015           20447          13631         6815             109053
2016           16357          10905         5452             87243
2017           13086          8724          4362             69795
```

Test your program with the following sample data:

Population	% Birth	%Death (overhunting)	%Death (OilSpills)
110000	8	15	20
10000	1	5	10
2500000	2	8	15