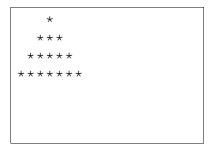
## **CSE2031**

## Winter 2017 Practice Questions

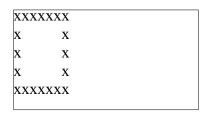
Here are some practice questions to test your C abilities

1. Write a program that display an isosceles triangle that made of '\*'. The program reads an integer from the standard input. Then it display on the standard output a triangle with the base equal to n \*'s. The row above that have n-2 \*'s and so on until the first row contains either 1 or 2 \*'s (depending on n being odd or even.

The figure below shows the triangle with n = 7.



2. Write a program that displays a rectangle on the screen. The program reads from the standard input three parameters, width, height, and a character. Them it display a rectangle with width and height using the character read. For example, if the input 7 5 x. The output should be



3. Write a program that encodes a message. The message is read from the standard input. The key is an integer (k). The program arranges the message in a r-by-K rectangle. Then the program displays the message column by column. For example if the key is 11, the message is

If you are looking for ransom, I can tell you I don't have money. But what I do have are a very particular set of skills, skills I have acquired over a very long career. Skills that make me a nightmare for people like you\n

## The program arranges it in a x-by- $\frac{11}{22}$ matrix (the number of columns is $\frac{11}{22}$ )

If you are looking for ransom, I can tell yo u I don't have money.
But what I do have are a very particular set of skills, skills I h ave acquired over a very long career. Skills that make me a nightmare for people like yo u\n

Then, the output is displayed column by column

I uB ar aufr uaovytr aIt fe and so on

4. Can you think of a decoder program for the previous encoder?