**COMP 1917 Computing 1 Session 2, 2014**

**Tutorial - Week 3**

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**Tutorial Presentation**

Explain the scoring system for a tennis match between two teams A and B. Discuss the challenges that will be involved in completing [Assignment 1](http://www.cse.unsw.edu.au/~cs1917/14s2/hw1). What "pitfalls" do you need to watch out for?

**Week 3 Tutorial Questions**

1. Write a program that allows the user to enter at integer and then prints out that many stars, each on a new line.

% ./stars

Please enter an integer: 5

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Consider the following code:

1 #include

2

3 int main( void )

4 {

5 int num;

6 int row, col;

7

8 // Obtain input

9 printf("Enter number: ");

10 scanf("%d", &num);

11 for(row = 1; row <= num; row++) {

12 for(col = 1; col <= num; col++) {

13 printf("\*");

14 }

15 printf("\n"); // Start a new line

16 }

17

18 return 0;

19 }

What is the output if the user types in the number 4?

Modify the program so that it prints a triangle instead of a square:

$ ./triangle

Enter n ? 6

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How would you change your program to print the triangle in different orientations?

(a) \*\*\*\*\*\* (b) \*\*\*\*\*\* (c) \*

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1. Write a function

int isPrime( int n )

which accepts a positive integer n and returns 1 if n is prime, 0 otherwise. (Recall that an integer is **prime** if it has no factors other than itself and 1).

1. Write a program prime.c which prints all the prime numbers from 1 to 100. Your program should use theisPrime() function from part 4, as well as a main function.
2. This question uses Arrays. (Please read slides 12-17 from Section 8 of the Course Nodes.) An array is a collection of variables of the same type, e.g.

int a[7];

This creates a group of 7 variables which are numbered from 0 to 6:

a[0],a[1],a[2],a[3],a[4],a[5],a[6]

Write a program parrot.c which reads 7 integers from standard input, stores them into the array a[], then prints them out in the same order. For example:

% ./parrot

Enter seven numbers:

8 6 7 5 3 0 9

a[0] = 8

a[1] = 6

a[2] = 7

a[3] = 5

a[4] = 3

a[5] = 0

a[6] = 9

**Presentation Topic for Week 4**

Describe the ASCII coding system. (What does ASCII stand for?) Draw a schematic "map" of the ASCII Table on the board, showing (in both decimal and hexadecimal notation) where the following sets of characters lie:

* non-printable characters 0-32
* digits '0' to '9'(48-57)
* uppercase letters 'A' to 'Z'(65-90)
* lowercase letters 'a' to 'z'(97-122)
* punctuation