Wednesday, 01
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Crux

Lecture -2

Programming Fundamentals -1

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CODING BLOCKS

Eclipse?

BT – Greedy Pirates

A pirate ship captures a treasure of 1000 golden coins. The treasure has to be split among the 5 pirates: 1, 2, 3, 4, and 5 in order of rank. The pirates have the following important characteristics: infinitely smart, bloodthirsty, greedy. Starting with pirate 5 they can make a proposal how to split up the treasure. This proposal can either be accepted or the pirate is thrown overboard. A proposal is accepted if and only if a majority of the pirates agrees on it. **What proposal should pirate 5 make?**

BT – Infinite Quarter Sequence

You are wearing a blindfold and thick gloves. An infinite number of quarters are laid out before you on a table of infinite area. Someone tells you that 20 of these quarters are tails and the rest are heads. He says that if you can split the quarters into 2 piles where the number of tails quarters is the same in both piles, then you win all of the quarters. You are allowed to move the quarters and to flip them over, but you can never tell what state a quarter is currently in (the blindfold prevents you from seeing, and the gloves prevent you from feeling which side is heads or tails). **How do you partition the quarters so that you can win them all?**

BT – 5: Circular Jail Cell

There is a circular jail with 100 cells numbered 1-100. Each cell has an inmate and the door is locked. One night the jailor gets drunk and starts running around the jail in circles. In his first round he opens each door. In his second round he visits every 2nd door (2,4,6---) and shuts the door. In the 3rd round he visits every 3rd door (3,6,9---) and if the door is shut he opens it, if it is open he shuts it. This continues for 100 rounds (i.e. 4,8,12 ---; 5,10,15 ---; ---; 49,98 etc.) and exhausted the jailor falls down. **How many prisoners found their doors open after 100 rounds**?

CODING BLOCKS

Any doubts on assignment?

Time to write Hello World!

Simple Interest Calculation

Primitive Data Types

- Boolean - boolean
- Character - char
- Integer – long, int, short, byte
- Floating Point – float
- Double Floating Point – double

Largest of three numbers

Print sum of numbers from 1 to N

Change Code to take User Input

Print table of Fahrenheit to Celsius

Print the following table for Fahrenheit to Celsius using Formula C = (5/9)(F – 32)

0	-17
20	-6
40	4
60	15
80	26
100	37
120	48
140	60
160	71
180	82
200	93
220	104
240	115
260	126
280	137
300	148

Lets do these problems

- Sum of odd numbers and even numbers from 1 to N
- Check if a number is prime
- Find min and max out of 5 numbers
- Write code to print the following pattern

  1

  2 3

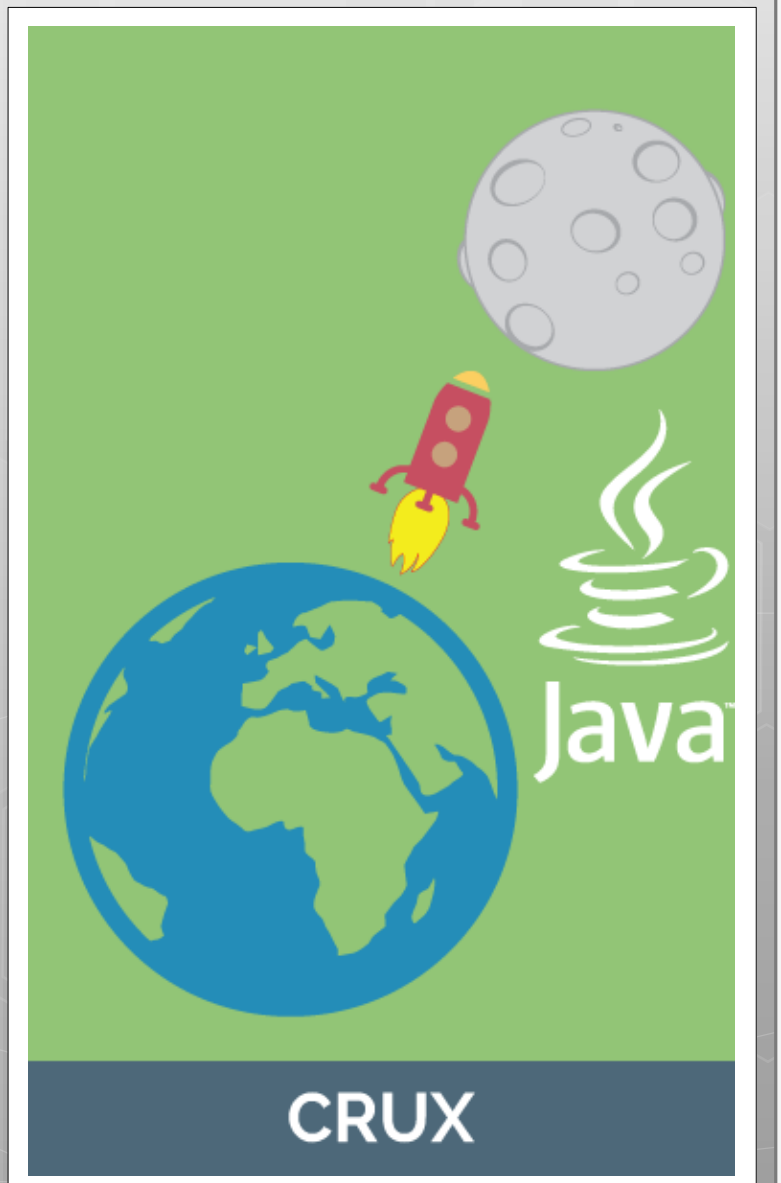
  4 5 6

  7 8 9 10

Time to Try?

- Print all Fibonacci number less than N
- Find all prime numbers between 2 to N
- Write code to print the following pattern

```
    1
   232
  34543
 4567654
567898765
```



Thank You !!

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