# Functions

- Functions
- Data Types
- Variables and Scopes

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CRUX

# BT – 6: 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?**

CODING BLOCKS

# BT – 7: 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?**

# Primitive Data Types

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

CODING
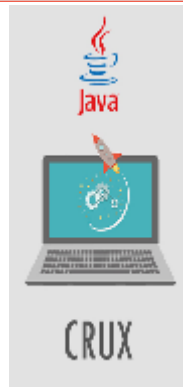BLOCKS

# Print table of Fahrenheit to Celsius

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

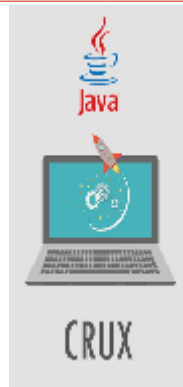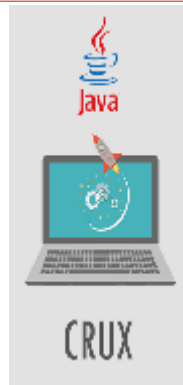| | |
|---|---|
| 0 | − 17 |
| 20 | −6 |
| 40 | 4 |
| 60 | 15 |
| 80 | 26 |
| 100 | 37 |
| 120 | 48 |
| 140 | 60 |
| 160 | 71 |
| 180 | 82 |
| 200 | 93 |
| 220 | 104 |
| 240 | 115 |
| 260 | 126 |
| 280 | 137 |
| 300 | 148 |

CODING BLOCKS

# Connectors?
# Functions
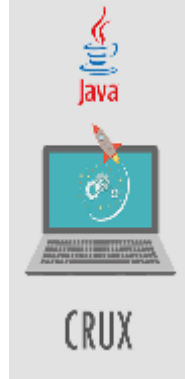
# Why Functions?

# Function calls

# Variables and their Scope

# Pass by Value

# Lets do these problems

- Binary to Decimal
- Decimal to Binary
- Binary to Octal
- Any to Any

# Time to Try?

- Count 5's in a number
- Inverse of a number
- Is number mirror inverse
- Is Armstrong number
- Print all Armstrong numbers from 100 to 999

12

CODING
BLOCKS

# Time to Try?

- Return GCD of two numbers
- Return LCM of two numbers
- Power(x, n)
- Log(x, n)

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Thank you

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