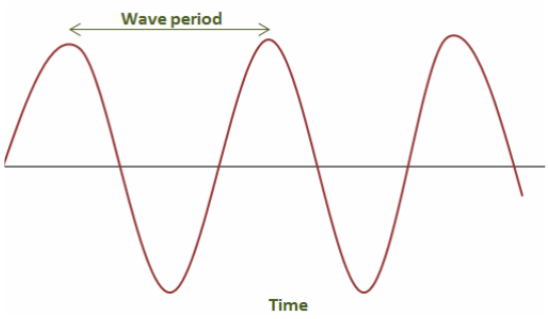
DarkNUS Electrical Team

Week 1: Basic C

Question 1: Frequency to period converter

Write a program freq_converter.cpp that reads in two unsigned 32bit integer representing the frequency of a signal in Hz (hertz, i.e. how many times the wave passes that point in a second) and the speed of the wave (in m/s)

Print out the period of the signal (1/frequency) and the wavelength of the system. You may assume the input integers will never be less than 1.



Hint: the period might turn into a float!

Sample:

```
Input frequency: 100
Wave period: 0.01
```

Question 2: Prime checker

Write a program prime_checker.cpp that reads in one unsigned 32bit integer and prints whether the number is a prime or not. You may assume the number will always be 0 or above.

#include <math.h> For sqrt()

sample:

```
Input number: 21
Number is NOT a prime
```

```
Input number: 2
Number is a prime!
```

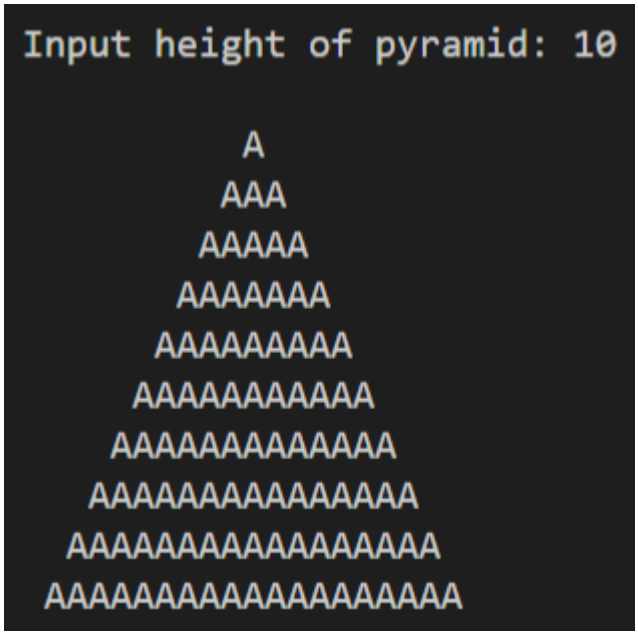
```
Input number: 4294967279
Number is a prime!
```

```
Input number: 1
Number is a prime!
```

In case yall forgot your math already 1 is NOT a prime number lol. CHECK THE EDGE CASES.

Question 3: Pyramid

Write a program pyramid.cpp that reads in one unsigned 32bit integers, representing the height of a pyramid. The program is required to print out a pyramid of the specified height, with a custom defined character. Experiment with changing out the character and space (maybe to characterS?) and see what happens!



Screams internally