

# Day 1 - Problem Set

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## Question 1

Write a program which asks the user to enter their weight in pounds and their height in feet and inches (so if they are 5ft 9in they must enter a 5 and then a 9). The program must then print out their weight in kilograms and their height in metres. It must then print out their BMI. The following conversions can be used - 1 kg = 2.2 lbs - 1 in = 0.025 m - 1 ft = 12 in The formula for BMI is  $B = w \div h^2$  where  $B$  is their BMI,  $w$  is their weight in kg, and  $h$  is their height in metres.

### Example Output:

```
Enter your weight in pounds:
150
Enter your height in feet and inches:
5
9
Your weight in kg is: 68.18181818181817
Your height in m is: 1.725
Your BMI is: 22.913444463538976
```

## Question 2

Write a program which asks the user to enter a 4 digit number, then prints out the number vertically; i.e., prints out each digit of the number on a different line.

### Example output:

```
Enter a 4 digit number: 1234
Number vertically:
1
2
3
4
```

## Question 3

Write a program which asks the user to think of a 4 digit number and lets them enter the 4 digits individually, then prints out the original number.

### Example output:

```
Enter the 4 digits of the number:
3
7
5
1
Original number: 3751
```

## Question 4

Write a program which asks the user for a number from 0 to 255 and prints out the number as an 8-bit binary number. The bits can be printed vertically if you want. You may skip this question if you do not know how to convert numbers to binary.

### Example output:

```
Enter a number between 0 and 255: 47
In binary: 0 0 1 0 1 1 1 1
```