**Problems for January 27th - if statements**

**Problem A: Age and Weight**

In this problem, the goal is to write a program that accepts several inputs and determine if a person is able to ride a roller coaster based on their age and weight. The two inputs are

* Age in years
* Weight in lbs

A person is only allowed to ride if between the ages 18-65 and weight 100-300lbs.

Some examples:

Enter your age: **70**

Enter your weight: **175**

You cannot go on the coaster

Enter your age: **50**

Enter your weight: **200**

You can go on the roller coaster

**Problem B: Age and Weight (continued)**

Show below is one possible solution for problem A

import os

age = int(input('Enter your age: '))

weight = int(input('Enter your weight: '))

if age >= 18:

if age <= 65:

if weight >= 100:

if weight <= 300:

print('You can go on the roller coaster')

os.\_exit(0)

print('You cannot go on the coaster')

Is this a good implementation? A bad one? How could it be better?

**Problem C: Purchases**

In this problem, the goal is to write a program that accepts 4 inputs (a total budget, and the cost of three different items) and then determines if the user can afford all of them, none of them, or one/two of them. How many items a user can afford should be based on the total budget (the first input). Shown below are several examples:

Budget for three items: **55.25**

Cost of item A: **10.50**

Cost of item B: **20.50**

Cost of item C: **24.25**

You can afford all three items

Budget for three items: **100.70**

Cost of item A: **50.25**

Cost of item B: **50.25**

Cost of item C: **50.50**

You can afford one or two items

Budget for three items: **100**

Cost of item A: **200**

Cost of item B: **300**

Cost of item C: **400**

You can afford none of the items

**Solutions:**

**Problem A:**

import os

age = int(input('Enter your age: '))

weight = int(input('Enter your weight: '))

if age >= 18 and age <= 65:

if weight >= 100 and weight <= 300:

print('You can go on the roller coaster')

os.\_exit(0)

print('You cannot go on the coaster')

**Problem C:**

import os

budget = float(input('Budget for three items: '))

cost\_a = float(input('Cost of item A: '))

cost\_b = float(input('Cost of item B: '))

cost\_c = float(input('Cost of item C: '))

if budget >= (cost\_a + cost\_b + cost\_c):

print('You can afford all three items')

os.\_exit(0)

if budget < cost\_a and budget < cost\_b and budget < cost\_c:

print('You can afford none of the items')

os.\_exit(0)

print('You can afford one or two items')