

AP CSP

Aim: SWBAT create a program that uses if/else conditional statements.


Standards:

9-12.CT.4 Implement a program using a combination of student-defined and third-party functions to organize the computation

9-12.CT.5 Modify a function or procedure in a program to perform its computation in a different way over the same inputs, while preserving the result of the overall program.

9-12.CT.9 Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior.

Do Now:

There's no built in \leq block in Snap!. Suppose we wanted to build one. Which **two** of the following Boolean expressions are equivalent to the expression  ?

- ☐ 
- ☐ 
- ☐ 
- ☐ 

Mini Lesson: Turn and Talk

Students will work in pairs to answer the following questions on the code provided.

What are some examples of inputted integers that will lead to the user being charged \$100?

What are some examples of inputted integers that will lead to the user not being charged \$100?

```
1 total_weight = int(input('Enter total weight of luggage:'))
2 num_pieces = int(input('Number of pieces of luggage?'))
3
4 if num_pieces != 0 and total_weight / num_pieces > 50:
5     print('Average weight is greater than 50 pounds -> $100 surcharge.')
6
7 print('Luggage check complete.')
8
```

Live Coding:

While I go through the code, students will copy the code onto their sandbox. We will first outline the code on paper and then translate into python.

Create a program that asks the user for his/her GPA and absences. Pass these two numbers into a function that determines whether the user is eligible to be in the Honor Roll. To be in the honor roll, you need to have over a 3.0 gpa and less than 5 absences.

```
def honorRoll(gpa, absences):  
    if gpa >= 3.0 and absences < 5:  
        print('You are eligible for honor roll')  
    else:  
        print('You are not eligible for honor roll')  
  
gpa = float(input('Enter your GPA'))  
absences = int(input('How many absences do you have?'))  
  
honorRoll(gpa, absences)
```

Activity:

- 1) Create a program that asks the user to enter his age and his height (in inches). Then create a function that determines if the user is eligible to ride on a roller coaster. To ride the roller coaster, you need to be either over the age of 18 or over 60 inches.