Lone Star Branching quiz section 4

1. (3.1) Use the following code to answer the below questions

```
if my_var \% 2 == 1:
      if mv_var**3 != 27:
                             \#Assignment 1
3
        my_var = my_var +4
4
      else:
5
        my_var /= 1.5
                             #Assignment 2
6
      if my_var <= 10:
        my\_var *= 2
                             #Assignment 3
9
      else:
10
        my_var -= 2
                             #Assignment 4
11
   print(my_var)
```

- (a) Find four values of my_var so each of the four assignment statements will be executed: each value should cause one assignment statement to be executed.
- (b) Find four ranges of my_var values that will cause each of the four assignment statements to be executed.
- 2. (3.2) In Harry Potter, the currency consists of knuts, sickle, and galleon. There are 29 knuts in one sickle and 17 sickles in one galleon. Write a program that will convert some amount of knuts into the fewest amount of coins possible. Only print non-zero values, meaning don't print something similar to "0 sickles." For example,
 - Given 32 knuts, output 1 sickle 3 knuts
 - Given 544 knuts, output 1 galleon 4 sickles 18 knuts
 - Given 993 knuts, output 2 galleons 7 knuts. Do **not** output 2 galleons 0 sickle 7 knuts.
- 3. (3.3) The table below shows the maximum health of characters based on race and class for a new video game I am creating. Write a program that asks the user for the race and the class of their character, and then sets the *health_points* variable according to the table below.

 $health_points = -1$ #Your code here.

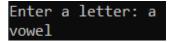
	Race	
Class	Elf	Ogre
Warrior	150	200
Bard	75	100
Wizard	25	50

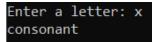
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Dot Matrix Branching quiz section 5

1. (3.1) Write a program that prompts the user for a letter and checks whether the letter is a vowel or consonant. A vowel should output "vowel", and a consonant should output consonant. You may assume only lower case letters. Below is sample output.

Hint: In the English language, a, e, i, o, and u are the vowels.



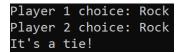


- 2. (3.2) Create a game of Rock, Paper, Scissors that takes user inputs. The first input should be player 1 and the second input should be player 2. Print the winner according to the following rules.
 - Rock beats Scissors
 - Scissors beats Paper
 - Paper beats Rock

For example:

```
Player 1 choice: Rock
Player 2 choice: Paper
player 2 wins!
```

```
Player 1 choice: Scissors
Player 2 choice: Paper
player 1 wins!
```



3. (3.3) The table below show what your resting heart rate should be based on age and athleticism. Write a program that asks the user their age and desired athleticism goal, and then outputs what their resting heart rate should be.

	Athleticism		
Age	Above Average	Below Average	
20 - 39	47 - 72	73 - 93	
40 - 59	46 - 71	72 - 94	
60 - 79	45 - 70	71 - 97	

Your end output should look similar to this

Enter your age: 45

Enter your athleticism goal: Below Average
Your resting heart rate should be between 72–94.

Dark Helmet Branching quiz section 4

1. (3.1) Write a program that asks the user for three numbers, and then determines (and outputs) which of the numbers is the smallest. Do not use the built-in function min().

Pick a number: 35 Pick another number: 11 Pick another number: 89 The smallest number is 11.

For example,

Pick a number: 3 Pick another number: 2 Pick another number: 1 The smallest number is 1.

2. (3.2) Primary U.S. interstate highways are numbered 1-99. Odd numbers (like 5 or 95) go north/south, and evens (like 10 or 82) go east/west. Auxiliary highways are numbered 100-999, and service the primary highway indicated by the rightmost two digits. Thus, I-405 services I-5, and I-290 services I-90.

Note: 200 is not a valid auxiliary highway because 00 is not a valid primary highway number.

Let the user pick a highway number. Given a valid highway number, indicate whether it runs north/south or east/west. If it is an invalid highway number, indicate that it is an invalid highway number. For example,

Pick a highway number: 400 Invalid highway number Pick a highway number: 694 highway 694 runs east/west Pick a highway number: 305 highway 305 runs north/south Pick a highway number: 35 highway 35 runs north/south

3. (3.3) The table below shows the maximum health of characters based on race and class for a new video game I am creating. Write a program that asks the user for the race and the class of their character, and then sets the *health_points* variable according to the table below.

 $health_points = -1$ #Your code here.

	Race	
Class	Elf	Ogre
Warrior	150	200
Bard	75	100
Wizard	25	50

1. (3.1) Write a program that prompts the user for a letter and checks whether the letter is a vowel or consonant. A vowel should output "vowel", and a consonant should output consonant. You may assume only lower case letters. Below is sample output.

Hint: In the English language, a, e, i, o, and u are the vowels.

Enter a letter: a vowel Enter a letter: x consonant

2. (3.2) Primary U.S. interstate highways are numbered 1-99. Odd numbers (like 5 or 95) go north/south, and evens (like 10 or 82) go east/west. Auxiliary highways are numbered 100-999, and service the primary highway indicated by the rightmost two digits. Thus, I-405 services I-5, and I-290 services I-90.

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