

Due: Friday 10/27/23

This assignment is designed to help you do well on the quiz we're doing next week. Number the parts of your program as shown. If we have time and you are done call me over to check off your work. Also turn the program in on the Google Classroom. Create a repl Python program called "day29 review". Put your name in a comment at the top. Do all of the following in that program:

1. Write a print line that prints a random integer between 17 and 29 inclusive. The print-out should look like this (except it should only sometimes be 22, since it's random):

```
1. Random number: 22
```

2. Write a for loop that prints the numbers 4 through 8, one number on each line. It should look like this:

```
2. for loop:
4
5
6
7
8
```

3. Write a for loop to print the numbers 4 through 48 in 5 columns separated by tabs like this:

```
3. for loop with columns:
4      5      6      7      8
9      10     11     12     13
14     15     16     17     18
19     20     21     22     23
24     25     26     27     28
29     30     31     32     33
34     35     36     37     38
39     40     41     42     43
44     45     46     47     48
```

4. Write a function that accepts a piece of text and then prints it in a box like this, if the text is less than 15 characters long, and prints "too long" if the text is too long. The box is 20 stars wide, then contains the text centered in 18 spaces with a star on each end, then 20 more stars. Call the function twice to test it, once where the text is not too long and once where it is too long. Your output should look like this:

```
4. Function
*****
*           Hays           *
*****
[This one is too long] is too long
```

5. Write code to create a list with your three favorite colors in it, then print the list using a for loop, one color per line. Do not use a break command. Do not ask the user to enter anything.

```
5. Favorite colors:
Yellow
Green
Blue
```

(continued on next page)

6. I put some test scores into a list variable as shown. Write code that **uses a for loop** to go through the list and reports how many numbers are smaller than 60 and adds them up. Please do not just print "2". Write a for loop to check each number, then print out your results as shown in the sample below. Start this section with the following line:

```
scores = [81, 45, 98, 53, 64, 84, 77, 60, 93]
```

Sample output:

```
6. List processing:
```

```
There are 2 numbers less than 60, they add to 98
```

The idea of the above is that if I changed the list of numbers, your code would still check all the numbers and count how many were less than 60; in other words, the code that processes the list is not dependent upon this specific list.

7. Write code that uses a try/except structure with an input command to request a negative integer value from the user. The code needs to ask the user for a negative integer x and verify it is negative, then print the number.

Include one error message to the user on ValueError and a different one if the number is not negative.

Here is sample output:

```
7. try/except:
```

```
Please enter a negative integer: abc
That is not an integer, please try again.
Please enter a negative integer: 14
That is not negative, please try again.
Please enter a negative integer: -7
Thanks! -7 is negative and it is an integer.
```

8. Ask the user to enter an integer. Ask them to enter a second integer. Print the average of the two numbers. To find the average, add the two numbers together and divide by how many numbers you added (in this case, divide by 2). Test your results to make sure they work. The average of 4 and 6 is 5.0 for example. Or use my example below.

Sample output:

```
8. Average:
```

```
Please enter a number: 7
Please enter another number: 17
The average is 12.0
```