**Python exercises**

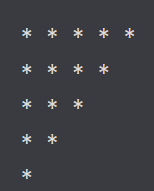
*Grades:****6*** *pts/week ->* ***D***

***7*** *pts/week ->* ***C***

***9*** *pts/week ->* ***B***

***12*** *pts/week ->* ***A***

**Easy → 2 - 4 pts.**

1. **2 pts** → Write a Python program that accepts a sequence of comma-separated numbers from the user and generates a list and a tuple of those numbers.
2. **2 pts →** Write a Python program to display the first and last colors from a list of colors. The user inputs the colors as a series of strings separated by commas; ***e.g. Red,Blue,Yellow,Pink***
3. **2 pts →** The user enters a list of numbers. Print them in reverse order
4. **3 pts →** Write a Python program that checks whether a specified number is contained within a list of numbers. The user enters a number and a list of numbers, and is told whether the number is inside the list or not.
5. **3 pts →** Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn. **E.g.  *n = 5 → 5 + 55 + 555 = 615***
6. **4 pts →** Write a Python program to calculate the difference between a given number and 17. If the number is greater than 17, return twice the absolute difference.
7. **4 pts →** The user enters a string **S** and a character **C**. Write a program that prints out how many times the character **C** appears in the string **S**
8. **3 pts →** Write a program to loop through the first 10 numbers, and in each iteration, print the sum of the current and previous number.
9. **3 pts →** From a given list of numbers, print only those that are divisible by 5
10. **4 pts →** The user enters a number N, print the following pattern. **E.g. N = 5**  
    
11. **4 pts →** The user enters the amount of numbers he wants to collect to a list. Let the user enter the numbers one by one and add them to a list. Print the list.

**Medium → 5 - 8 pts.**

1. **5 pts →** Write a Python program that accepts the user's first and last name and prints them in reverse order with a space between them.
2. **5 pts →** Write a Python program that determines whether a given number (accepted from the user) is even or odd, and prints an appropriate message to the user.
3. **6 pts →** Write a Python program to test whether a passed letter is a vowel or not.
4. **5 pts →** Write a Python program to sum three given integers. However, if any two of the three given integers are equal, the sum will be zero.
5. **5 pts →** Write a Python program that prints True if the two given integer values are equal or their sum or

difference is 5.

1. **5 pts →** Write a Python program to calculate sum of all the digits of a number that the user enters.
2. **6 pts →** Write a program to accept a string from the user and display characters that are present at an even index number. e.g. , ***str = "pynative" → ‘p’, ‘n’, ‘t’, ‘v’.***
3. **7 pts →** The user enters two lists of numbers. Write a program to create a new list such that the new list contains odd numbers from the first list and even numbers from the second list.  
   *(Bonus 2 points: do this in one loop)*

### **5 pts →** Write a Program to extract each digit from an integer in the reverse order. **E.g. 7536, → “6 3 5 7“, *(****with a space separating the digits).*

### **6pts →** Print multiplication table from 1 to N. **e.g. N = 10** →

1 2 3 4 5 6 7 8 9 10

2 4 6 8 10 12 14 16 18 20

3 6 9 12 15 18 21 24 27 30

4 8 12 16 20 24 28 32 36 40

5 10 15 20 25 30 35 40 45 50

6 12 18 24 30 36 42 48 54 60

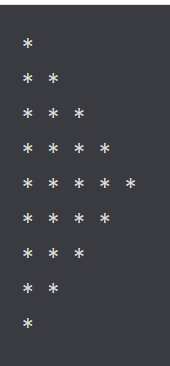
7 14 21 28 35 42 49 56 63 70

8 16 24 32 40 48 56 64 72 80

9 18 27 36 45 54 63 72 81 90

10 20 30 40 50 60 70 80 90 100

1. **6 pts →** The user enters a number **N.** Print the following pattern. **E.g. N = 5**

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**Hard → 12+ pts.**

1. **10 pts →** The user enters a number N and a list of numbers L. Write a Python program that prints True if every number in the list L is larger than the number N.
2. **10 pts →** The user enters a number N and another number M. Write a Python program to swap these two variables so that N = M and M = N. **e.g. *N = 5 & M = 9 → N = 9 & M = 5***
3. **10 pts →** Write a Python function that takes a sequence of numbers and determines whether all the numbers are different from each other.
4. **15 pts →** Write a Python program that reads text (only alphabetical characters and spaces) and prints two words. The first word is the one that appears most often in the text. The second one is the word with the most letters.
5. **10 pts →** Write a program to check if the given number is a palindrome number. A palindrome number is a number that stays the same after being reversed. ***E.g. 543345 is a palindrome and 5454 is not***
6. **15 pts →** Write a game of rock paper scissors. The user enters either “rock”, “paper” or “scissors”. The computer then plays and the result of who won is printed out.

REPORTS

1. Week 1 (10/22/23 - 23/10/23~~):~~ **~~number 6 of hard:~~** ~~Write a game of rock paper scissors. The user enters either “rock”, “paper” or “scissors”. The computer then plays and the result of who won is printed out.~~

Points:15 Notes: I used google to figure out the commands I didn’t know/you haven’t told me yet to make the program nicer. Also, I did more than needed to the program.