Discovery Day 24 - Introduction to Programming

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Please navigate to the following url: **www.online-python.com**

Programming Project #1

1. Change the function name from sum to add. Run the program to make sure your change worked.
2. Write a new function called multiply. It should be quite similar to your add function, but multiplies 2 numbers instead. Hint: use the * character to multiply numbers.
3. Make a copy of the line at the bottom that starts with print and paste it on the next line so there are two identical lines that start with print.
4. Change the new second print statement to call the new multiply function. Run the program to make sure everything is working.

Programming Project #2

1. Leaving the current tab unchanged, open www.online-python.com in a new tab.
2. In the new tab, delete all the code, and copy over **only** the multiply function, from the old tab. Now, type in the following code, below the multiply function, which prints the numbers from 0 to 12.

```
for i in range(13):
    print(i)
```

3. Can you modify the code to print out the products of the 9 times table (0, 9, 18, …, 108)? Now, can you change this so it prints out the 9 times table for numbers up to 9x15?
4. In programming, parts of the code can be conditionally executed. For example:

```
if 10 > 5:
    print('Of course 10 is greater than 5!')
```

How could you use this to change your program to only display results greater than 50? Now, only display numbers less than 100.

Programming Project #3

1. Using the code in the first tab, from Project 1, can you implement a simple calculator that can add, subtract, multiply and divide?

Hint1: You could use a line of code like this to take the operation input.

```
operation = input("Enter operation (+, -, *, /): ")
```

Hint2: You can handle the different “operations” using conditionals, like this:

```
if operation == "+":
    result = a + b
elif operation == "-":
    result = a - b
elif operation == "*":
    result = a * b
...
```

Hint 3: To handle numbers with decimals you need to use the correct data type. Change the data type of the input from int (integers) to float (floating point numbers).

```
a = float(input('Enter 1st number: '))
b = float(input('Enter 2nd number: '))
```

Now, let’s see a Generative AI demo using Google Vertex-AI