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Training Sessions

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Date	Sep-02-2024	Session No	1B

Topic : Python Basics - Loop, Functions, Strings

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main.py

```python
def any_list(a, b, c):
    ls = []
    for num in range(a, b, c):
        ls.append(num)
    return ls

evn = any_list(100, 200, 2)
#print(evn)

# Even numbers
# 2 : odd numbers - 200 and 300

odd = any_list(200, 99, -5)
print(odd)
```

Questions to try : Assignment

Loops Questions:

1. Write a while loop to print the numbers from 1 to 10, but skip the number 7.
2. Use a while loop to print "Hello, World!" a number of times equal to the length of the word "Programming".
3. Write a program that uses a while loop to print the numbers 1 to 10, but stop the loop if the number is divisible by 4.
4. Write a while loop that prints the numbers 1, 2, 3, 4, and 5 in reverse order, stopping when the loop reaches 3.
5. Use a while loop to print the first 5 multiples of 3, but break the loop if the multiple is greater than 9.
6. Write a while loop that prints every alternate letter in the word "Python" starting from the first letter.
7. Create a program that uses a while loop to calculate and print the factorial of a given number (e.g., 5!).
8. Write a while loop to iterate through a list of fruits ['apple', 'banana', 'cherry'], and print each fruit in uppercase, but stop when you encounter 'banana'.
9. Use a while loop to print numbers from 10 down to 1, but skip all odd numbers.
10. Write a while loop that prints only the even numbers from 1 to 20, but break the loop if the number is divisible by 8.

Functions :

1. **Sum of List Elements**: Write a function `sum_list(numbers)` that takes a list of numbers as input and returns the sum of all the elements in the list.
2. **Find Maximum in a List**: Create a function `find_max(numbers)` that takes a list of numbers as input and returns the largest number in the list.
3. **Reverse a List**: Write a function `reverse_list(items)` that takes a list as input and returns a new list with the elements in reverse order.
4. **Count Occurrences in a List**: Write a function `count_occurrences(items, target)` that takes a list and an element as input and returns the number of times the element appears in the list.
5. **Multiply Elements by a Number**: Write a function `multiply_by(numbers, n)` that takes a list of numbers and a single number `n`, and returns a new list where each element of the original list is multiplied by `n`.

END