Assignment – 4

PYTHON

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Case Study 1: Online Shopping Cart

```python
item1 = float(input("Enter the price of item 1: "))

item2 = float(input("Enter the price of item 2: "))

item3 = float(input("Enter the price of item 3: "))

total_price = item1 + item2 + item3


if total_price > 500:

    discount = total_price * 0.10  # 10% discount

    final_price = total_price - discount

else:

    final_price = total_price


print(f"\nTotal Price: ${total_price:.2f}")

if total_price > 500:

    print(f"Discount Applied: ${discount:.2f}")

print(f"Final Amount to Pay: ${final_price:.2f}")
```

OUTPUT:

Enter the price of item 1: 800

Enter the price of item 2: 400

Enter the price of item 3: 300

Total Price: $1500.00

Discount Applied: $150.00

Final Amount to Pay: $1350.00

=== Code Execution Successful ===

Case Study 16: Palindrome Checker

```python
word = input("Enter a word: ")
if word == word[::-1]:
    print(f"'{word}' is a palindrome!")
else:
    print(f"'{word}' is not a palindrome.")
```

OUTPUT:

Enter a word: madam

'madam' is a palindrome!

=== Code Execution Successful ===

Case Study 13: Age Group Classifier

```python
age = int(input("Enter the visitor's age: "))
if 0 <= age <= 12:
    category = "Child"
elif 13 <= age <= 19:
    category = "Teenager"
elif 20 <= age <= 59:
    category = "Adult"
elif age >= 60:
    category = "Senior Citizen"
else:
    category = "Invalid age entered"
print(f"\nThe visitor belongs to the '{category}' category.")
```

OUTPUT:

Enter the visitor's age: 20

The visitor belongs to the '**Adult**' category.

=== Code Execution Successful ===

Case Study 15: Fibonacci Series Generator

```python
n = int(input("Enter the number of terms: "))

fib_series = []

a, b = 0, 1

for _ in range(n):

    fib_series.append(a)

    a, b = b, a + b

print("\nFibonacci Series:")

print(fib_series)
```
Enter the number of terms: 7

OUTPUT:

Fibonacci Series:

[0, 1, 1, 2, 3, 5, 8]