

Mohammed Ibrahim
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Batch-12

AI ASSISTED CODING

ASSIGNMENT-10.1

TASK 1

GIVEN CODE-

```
Tabnine | Edit | Test | Explain | Document
def discount(price, category):
    if category == "student":
        if price > 1000:
            return price * 0.9
        else:
            return price * 0.95
    else:
        if price > 2000:
            return price * 0.85
        else:
            return price
```

PROMPT-

For the above code, simplify and refactor for readability.

AI GENERATED CODE-

```
Tabnine | Edit | Test | Explain | Document
def discount(price, category):
    """
    Calculate discounted price based on category and original price.

    Parameters:
        price (float): Original price of the item
        category (str): Customer category ('student' or other)

    Returns:
        float: Discounted price
    """
    if category == "student":
        return price * 0.9 if price > 1000 else price * 0.95
    return price * 0.85 if price > 2000 else price

[16] ✓ 0.0s Python
```

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TASK 2

GIVEN CODE-

```
Tabnine | Edit | Test | Explain | Document
def find_common(a, b):
    res = []
    for i in a:
        for j in b:
            if i == j:
                res.append(i)
    return res
```

PROMPT-

Refactor and optimize the above code.

AI GENERATED CODE-

```
Tabnine | Edit | Test | Explain | Document
def find_common(a, b):
    """
    Find common elements between two lists.

    Parameters:
        a (list): First list
        b (list): Second list

    Returns:
        list: List of common elements (no duplicates)
    """
    return list(set(a) & set(b))

✓ 0.0s Python
```

TASK 3

GIVEN CODE-

```
Tabnine | Edit | Test | Explain | Document
class Emp:
    def __init__(self, n, s):
        self.n = n
        self.s = s

    def inc(self, p):
        self.s = self.s + (self.s * p / 100)

    def pr(self):
        print("Emp:", self.n, "Salary:", self.s)
```

[20] ✓ 0.0s

PROMPT-

For the above code improve Naming conventions, Encapsulation, Readability & maintainability.

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TASK 4

GIVEN CODE-

```
Tabnine | Edit | Test | Explain | Document
def process_scores(scores):
    total = 0
    for s in scores:
        total += s
    avg = total / len(scores)

    highest = scores[0]
    for s in scores:
        if s > highest:
            highest = s

    lowest = scores[0]
    for s in scores:
        if s < lowest:
            lowest = s

    print("Average:", avg)
    print("Highest:", highest)
    print("Lowest:", lowest)
```

PROMPT-

Break the code into smaller helper functions.

AI GENERATED CODE-

```
Tabnine | Edit | Test | Explain | Document
def calculate_average(scores):
    """Calculate and return the average of the scores."""
    return sum(scores) / len(scores)

Tabnine | Edit | Test | Explain | Document
def find_highest(scores):
    """Find and return the highest score."""
    highest = scores[0]
    for s in scores:
        if s > highest:
            highest = s
    return highest

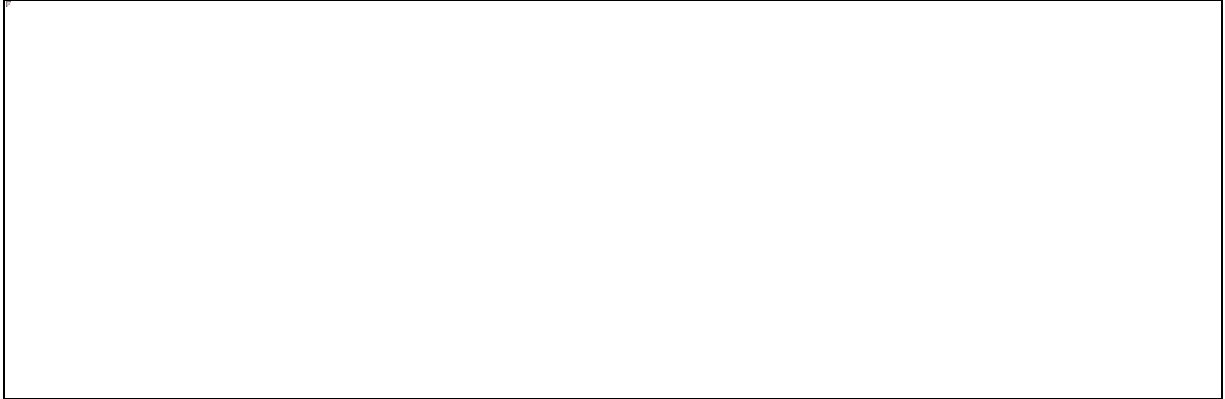
Tabnine | Edit | Test | Explain | Document
def find_lowest(scores):
    """Find and return the lowest score."""
    lowest = scores[0]
    for s in scores:
        if s < lowest:
            lowest = s
    return lowest

Tabnine | Edit | Test | Explain | Document
def process_scores(scores):
    """
    Process a list of scores to print average, highest, and lowest values.
    """
```

OUTPUT-

TASK 5

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GIVEN CODE-

A large, empty rectangular box with a thin black border, intended for the user to provide the given code.

PROMPT-

For the above code improve error handling, naming, and readability.

AI GENERATED CODE-

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TASK 6

GIVEN CODE-

```
Tabnine | Edit | Test | Explain | Document
def grade(score):
    if score >= 90:
        return "A"
    elif score >= 80:
        return "B"
    elif score >= 70:
        return "C"
    elif score >= 60:
        return "D"
    else:
        return "F"

print(grade(85))

[26] ✓ 0.0s Python
... B
```

PROMPT-

Simplify overly complex logic.

AI GENERATED CODE-

```
Tabnine | Edit | Test | Explain | Document
def grade(score):
    """
    Return the letter grade for a given numeric score.
    """
    grade_map = [(90, "A"), (80, "B"), (70, "C"), (60, "D")]

    for threshold, letter in grade_map:
        if score >= threshold:
            return letter
    return "F"

# Example usage
print(grade(85)) # Output: B
print(grade(72)) # Output: C
print(grade(58)) # Output: F

[27] ✓ 0.0s Python
... B
  C
  F
```