

AI Assisted Coding – Lab 4 Report

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Task 1 — Leap Year Check (Zero-Shot)

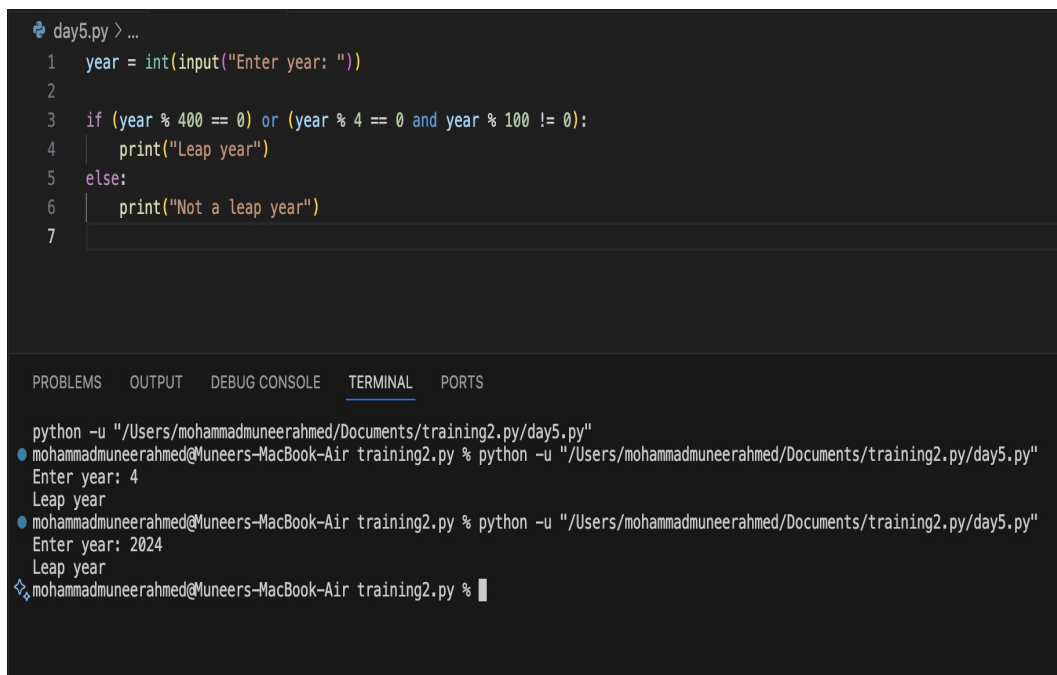
Question: Generate a Python program to check whether a year is a leap year.

Algorithm

1. Read year input.
2. Check if divisible by 400.
3. Else check divisible by 4 and not by 100.
4. Decide leap or not.
5. Print result.

Pseudocode

```
input year
if year % 400 == 0 OR (year % 4 == 0 AND year % 100 != 0)
    print Leap year
else
    print Not leap year
```



The screenshot shows a code editor with a Python program for checking leap years. The code is as follows:

```
day5.py > ...
1 year = int(input("Enter year: "))
2
3 if (year % 400 == 0) or (year % 4 == 0 and year % 100 != 0):
4     print("Leap year")
5 else:
6     print("Not a leap year")
7
```

Below the code editor is a terminal window with the following output:

```
python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
mohammadmuneerahmed@Muneers-MacBook-Air training2.py % python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
Enter year: 4
Leap year
mohammadmuneerahmed@Muneers-MacBook-Air training2.py % python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
Enter year: 2024
Leap year
mohammadmuneerahmed@Muneers-MacBook-Air training2.py %
```

Task 2 — CM to Inches (One-Shot)

Question: Convert centimeters to inches using one example.

Algorithm

1. Read cm value.
2. Divide by 2.54.
3. Round result.
4. Print inches.

Pseudocode

```
input cm
inches = cm / 2.54
print inches
```



The screenshot shows a code editor with a file named `day5.py` containing the following Python code:

```
1 cm = float(input("Enter length in cm: "))
2 inches = cm / 2.54
3 print("Inches:", round(inches, 2))
4
```

Below the code editor is a terminal window with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and PORTS. The terminal shows the command to run the script and its output:

```
python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
mohammadmuneerahmed@Muneers-MacBook-Air training2.py % python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
Enter length in cm: 43
Inches: 16.93
mohammadmuneerahmed@Muneers-MacBook-Air training2.py %
```

Task 3 — Name Formatting (Few-Shot)

Question: Format full name as Last, First.

Algorithm

1. Read full name.
2. Split into parts.
3. Extract first and last.
4. Print last, first.

Pseudocode

```
input name
parts = split(name)
first = parts[0]
last = parts[-1]
print last, first
```

```
day5.py > ...
1  text = input("Enter a string: ").lower()
2
3  count = 0
4  for ch in text:
5      if ch in "aeiou":
6          count += 1
7
8  print("Vowel count:", count)
9

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
mohammadmuneerahmed@Muneers-MacBook-Air training2.py % python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
Enter a string: abdsdg
Vowel count: 1
mohammadmuneerahmed@Muneers-MacBook-Air training2.py %
```

Task 4 — Vowel Count Comparison

Question: Generate vowel count logic.

Algorithm

1. Read string.
2. Convert to lowercase.
3. Loop characters.
4. Count vowels.
5. Print total.

Pseudocode

```
input text
count = 0
for ch in text
    if ch in vowels
        count++
print count
```

```
day5.py > ...
1 filename = input("Enter file name with .txt: ")
2
3 with open(filename, "r") as f:
4     lines = f.readlines()
5
6 print("Number of lines:", len(lines))
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
mohammadmuneerahmed@Muneers-MacBook-Air training2.py % python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"
Enter file name with .txt: 
```

Task 5 — File Line Count (Few-Shot)

Question: Read a text file and count lines.

Algorithm

1. Read filename.
2. Open file.
3. Read lines.
4. Count lines.
5. Print count.

Pseudocode

```
input filename
open file
lines = readlines
print len(lines)
```

day5.py > ...

```
1 full_name = input("Enter full name: ").strip()
2
3 parts = full_name.split()
4
5 if len(parts) >= 2:
6     first = parts[0]
7     last = parts[-1]
8     print(f"{last}, {first}")
9 else:
10    print("Invalid name")
11
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"

● mohammadmuneerahmed@Muneers-MacBook-Air training2.py % python -u "/Users/mohammadmuneerahmed/Documents/training2.py/day5.py"

Enter full name: muneer ahmed

ahmed, muneer

❖ mohammadmuneerahmed@Muneers-MacBook-Air training2.py %