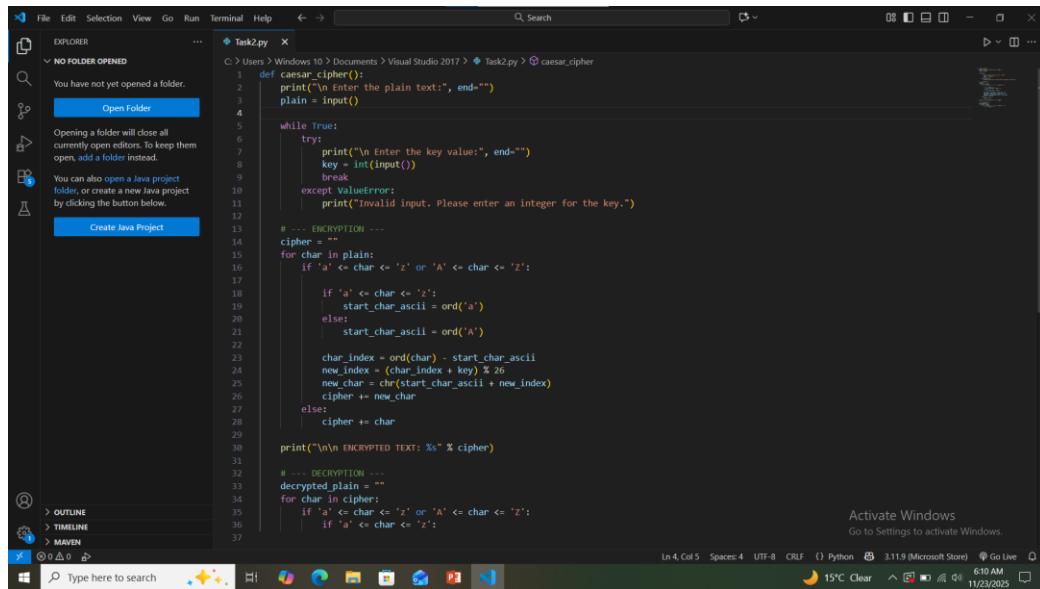


# Coding in Python:



The screenshot shows the Visual Studio 2017 IDE interface. The title bar says "Task2.py". The code editor contains Python code for a Caesar cipher. The code prompts the user for plain text and a key value, then encrypts and decrypts the text. The code uses ASCII values to calculate new character indices based on the key. The code editor has syntax highlighting for Python. The status bar at the bottom shows "Ln 4, Col 5" and "15°C".

```
C:\>Users>Windows 10>Documents>Visual Studio 2017>Task2.py > caesar_cipher
1 def caesar_cipher():
2     print("\nEnter the plain text:", end="")
3     plain = input()
4
5     while True:
6         try:
7             print("\nEnter the key value:", end="")
8             key = int(input())
9             break
10        except ValueError:
11            print("Invalid input. Please enter an integer for the key.")
12
13    # --- ENCRYPTION ---
14    cipher = ""
15    for char in plain:
16        if 'a' <= char <= 'z' or 'A' <= char <= 'Z':
17            if 'a' <= char <= 'z':
18                start_char_ascii = ord('a')
19            else:
20                start_char_ascii = ord('A')
21
22            char_index = ord(char) - start_char_ascii
23            new_index = (char_index + key) % 26
24            new_char = chr(start_char_ascii + new_index)
25            cipher += new_char
26        else:
27            cipher += char
28
29    print("\n\nENCRYPTED TEXT: " + cipher)
30
31    # --- DECRYPTION ---
32    decrypted_plain = ""
33    for char in cipher:
34        if 'a' <= char <= 'z' or 'A' <= char <= 'Z':
35            if 'a' <= char <= 'z':
36                start_char_ascii = ord('a')
37
```

- For writing the code in python, python extension should be installed in your system.
- We are writing the code in VS code.
- Firstly, we will make a folder in our system.
- Then we make a file in that folder and type .py at its end.
- Then will start typing the code in python language.

The screenshot shows the Microsoft Visual Studio Code interface. The left sidebar has sections for Explorer, Search, and Java Project. The main area displays a Python file named `Task2.py` containing code for a Caesar cipher. The terminal at the bottom shows the command `python3.11.exe` being run, followed by the output of the cipher script. A status bar at the bottom right shows the date and time.

```
File Edit Selection View Go Run Terminal Help < -> Search

EXPLORER
... Task2.py x
C:\> Users > Windows 10 > Documents > Visual Studio 2017 > Task2.py caesar_cipher
1 def caesar_cipher():
2     print("\nEnter the plain text:", end="")
3     plain = input()
4
5     while True:
6         try:
7             print("\nEnter the key value:", end="")
8             key = int(input())
9             break
10        except ValueError:
11            print("Invalid input. Please enter an integer for the key.")
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13    # --- ENCRYPTION ---
14    cipher = ""
15    for char in plain:
16        if 'a' <= char <= 'z' or 'A' <= char <= 'Z':
17
18            if 'a' <= char <= 'z':
19                start_char_ascii = ord('a')
20            else:
21                start_char_ascii = ord('A')
22
23            char_index = ord(char) - start_char_ascii
24            new_index = (char_index + key) % 26
25            new_char = chr(start_char_ascii + new_index)
26            cipher += new_char
27        else:
28
29    print(cipher)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\Windows 10\Documents\Visual Studio 2017> *c
PS C:\Users\Windows 10\Documents\Visual Studio 2017>
PS C:\Users\Windows 10\Documents\Visual Studio 2017> c: cd 'C:\Users\Windows 10\Documents\Visual Studio 2017'; & 'C:\Users\Windows 10\AppData\Local\Microsoft\Windows\apps\python3.11.exe' 'C:\Users\Windows 10\vscode\extensions\ms-python.python\debugpy-2025.14.1-win32-x64\bundledLibs\debs\py_launcher' '62663' -- 'C:\Users\Windows 10\Documents\Visual Studio 2017\Task2.py'
File "C:\Users\Windows 10\Documents\Visual Studio 2017\Task2.py", line 36
if 'a' <= char <= 'z':
IndentationError: expected an indented block after 'if' statement on line 36
PS C:\Users\Windows 10\Documents\Visual Studio 2017>

Activate Windows
Go to Settings to activate Windows.

In 4 Col 5 Spaces 4 UTE-8 CR LF Python 3.11.0 (Microsoft Store) Go Live 617 AM 11/2/2025 15°C Clear
```

- After writing the code, we have to run the code for output.
  - For output, click the RUN icon.
  - Then click the RUN WITHOUT DEBUGGING.
  - The code will run and give our desire output.