**5.Creating a Crypto-currency Wallet**

Objective

Step 1: Install Required Libraries

Before running the script, install the necessary Python packages:

pip install bitcoinlib eth-account

**Step 2: Full Python Script for a Crypto Wallet**

This script is **IDE-friendly** (e.g., works in PyCharm, VS Code, Jupyter Notebook) and supports both **Bitcoin and Ethereum wallets**.

import secrets

from bitcoinlib.wallets import Wallet

from eth\_account import Account

def create\_bitcoin\_wallet():

"""Creates a Bitcoin wallet and returns the details"""

wallet\_name = "MyBitcoinWallet"

# Create a Bitcoin wallet

wallet = Wallet.create(wallet\_name)

# Fetch key details

btc\_address = wallet.get\_key().address

private\_key = wallet.get\_key().wif

public\_key = wallet.get\_key().public\_hex

return {

"Currency": "Bitcoin",

"Address": btc\_address,

"Private Key": private\_key,

"Public Key": public\_key

}

def create\_ethereum\_wallet():

"""Creates an Ethereum wallet and returns the details"""

private\_key = "0x" + secrets.token\_hex(32) # Generate a 256-bit random private key

account = Account.from\_key(private\_key)

return {

"Currency": "Ethereum",

"Address": account.address,

"Private Key": private\_key

}

def main():

print("Choose the cryptocurrency wallet to generate:")

print("1. Bitcoin Wallet")

print("2. Ethereum Wallet")

choice = input("Enter your choice (1 or 2): ")

if choice == "1":

wallet\_info = create\_bitcoin\_wallet()

elif choice == "2":

wallet\_info = create\_ethereum\_wallet()

else:

print("Invalid choice! Please enter 1 or 2.")

return

print("\nGenerated Wallet Details:")

for key, value in wallet\_info.items():

print(f"{key}: {value}")

if \_\_name\_\_ == "\_\_main\_\_":

main()

### ****Step 3: Running the Script in an IDE****

1. **Open an IDE** (PyCharm, VS Code, or Jupyter Notebook).
2. **Create a new Python file** (e.g., crypto\_wallet.py).
3. **Paste the code** and run the script.
4. **Choose a wallet type (Bitcoin or Ethereum)** when prompted.
5. **Save your private key securely!** This is needed to recover funds.

Output.

