

Blood Bank Management System project idea in Python (console-based) using only basic Python features (no external libraries). You can later extend it to include file handling or databases.

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#### Project Description:

A simple console application for a blood bank system to:

Add donor details

View donor details

Search for donors by blood group

Exit the application

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#### Features:

Add Donor

Display All Donors

Search Donor by Blood Group

Exit

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#### Sample Code (Python):

```
# Blood Bank Management System
```

```
donors = []
```

```
def add_donor():
```

```
print("\n--- Add Donor ---")
name = input("Enter donor name: ")
age = input("Enter age: ")
gender = input("Enter gender: ")
blood_group = input("Enter blood group: ")
contact = input("Enter contact number: ")
```

```
donor = {
    "name": name,
    "age": age,
    "gender": gender,
    "blood_group": blood_group,
    "contact": contact
}
```

```
donors.append(donor)
print("✅ Donor added successfully!\n")
```

```
def display_donors():
    print("\n--- Donor List ---")
    if not donors:
        print("No donor records found.\n")
    else:
        for i, donor in enumerate(donors, start=1):
            print(f"{i}. Name: {donor['name']}, Age: {donor['age']}, Gender: {donor['gender']}, Blood Group: {donor['blood_group']}, Contact: {donor['contact']}")
        print()
```

```
def search_by_blood_group():
    print("\n--- Search Donor by Blood Group ---")
    group = input("Enter blood group to search: ")
    found = False
    for donor in donors:
        if donor['blood_group'].lower() == group.lower():
            print(f"Found Donor: {donor['name']} | Contact: {donor['contact']}")
            found = True
    if not found:
        print("No donor found with this blood group.\n")
```

```
def menu():
    while True:
```

```
print("\n=== Blood Bank Management System ===")
print("1. Add Donor")
print("2. Display All Donors")
print("3. Search Donor by Blood Group")
print("4. Exit")
choice = input("Enter your choice (1-4): ")

if choice == '1':
    add_donor()
elif choice == '2':
    display_donors()
elif choice == '3':
    search_by_blood_group()
elif choice == '4':
    print("Thank you for using Blood Bank Management System!")
    break
else:
    print("Invalid choice. Please try again.\n")
```

menu()

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#### How to Use:

Run the code in any Python environment.

Choose options (1-4) to perform actions.

Data will be stored temporarily (you can add file/database later).

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#### Ideas to Expand:

Save donor data in a file.

Include admin login.

Add date of donation and donation history.

Use MySQL or SQLite database for permanent storage.

GUI using Tkinter or web app with Flask/Django.

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✅ Features:

Add donor → Saves to file

Display donors → Reads from file

Search by blood group → Reads from file

Data is permanently stored in the file

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💻 Full Code (File Handling Version):

# Blood Bank Management System with File Saving

FILENAME = "donors.txt"

def add\_donor():

print("\n--- Add Donor ---")

name = input("Enter donor name: ")

age = input("Enter age: ")

gender = input("Enter gender: ")

blood\_group = input("Enter blood group: ")

contact = input("Enter contact number: ")

with open(FILENAME, "a") as file:

file.write(f"{name},{age},{gender},{blood\_group},{contact}\n")

print("✅ Donor added and saved successfully!\n")

def display\_donors():

print("\n--- Donor List ---")

try:

with open(FILENAME, "r") as file:

```

donors = file.readlines()
if not donors:
    print("No donors found.\n")
else:
    for i, line in enumerate(donors, start=1):
        name, age, gender, blood_group, contact = line.strip().split(',')
        print(f"{i}. Name: {name}, Age: {age}, Gender: {gender}, Blood Group: {blood_group}, Contact: {contact}")
except FileNotFoundError:
    print("No donor records found yet.\n")

```

```

def search_by_blood_group():
    print("\n--- Search Donor by Blood Group ---")
    group = input("Enter blood group to search: ").lower()
    found = False

```

```

    try:
        with open(FILENAME, "r") as file:
            for line in file:
                name, age, gender, blood_group, contact = line.strip().split(',')
                if blood_group.lower() == group:
                    print(f"Found Donor: {name}, Contact: {contact}")
                    found = True
            if not found:
                print("No donor found with this blood group.\n")
    except FileNotFoundError:
        print("No donor records available to search.\n")

```

```

def menu():
    while True:
        print("\n=== Blood Bank Management System ===")
        print("1. Add Donor")
        print("2. Display All Donors")
        print("3. Search Donor by Blood Group")
        print("4. Exit")
        choice = input("Enter your choice (1-4): ")

        if choice == '1':
            add_donor()
        elif choice == '2':
            display_donors()
        elif choice == '3':

```

```
        search_by_blood_group()
    elif choice == '4':
        print("Thank you for using Blood Bank Management System!")
        break
    else:
        print("Invalid choice. Please try again.\n")
```

menu()

---

 Output Files:

All donor data is saved in a text file named donors.txt like this:

```
John,25,Male,A+,9876543210
Sara,30,Female,O-,8765432109
```