4. Library Management System

Code

```python
# Maintain a list of available books along with their copies (e.g., a dictionary with book names as keys and copies as values).

Book_List={
    "The Power of Now": 10,
    "Atomic Habits": 15,
    "The Four Agreements": 9,
    "The Alchemist": 18,
    "You Are a Badass": 10,
    "The Power of Habit": 12,
    "Start with Why": 11,
    "The Lean Startup": 7,
    "The 48 Laws of Power": 6,
    "Deep Work": 8,
    "Daring Greatly": 11,
    "The Secret": 13,
    "The Magic of Thinking Big": 8,
    "The Slight Edge": 7,
    "The 5 AM Club": 10,
    "Becoming": 9,
    "The Science of Getting Rich": 5,
    "Principles: Life and Work": 6,
    "The Compound Effect": 7,
    "The Success Principles": 8,
    "Awaken the Giant Within": 12,
    "You Can Heal Your Life": 10,
    "The Untethered Soul": 13,
    "The One Thing": 11,
    "The Confidence Gap": 8,
```

```python
    "Who Moved My Cheese?": 6,
    "The Motivation Manifesto": 5,
    "The Big Leap": 7,
    "The Little Book of Hygge": 7,
    "Rising Strong": 9,
    "The Confidence Code": 8,
    "The Motivation Hacker": 7
}


# Provide an option to add new books or update the number of copies for existing books.
def Add_Books():
    global Book_List
    l=int(input("Enter No.of books you want to add "))
    for i in range(l):
        name=input("Enter Name Of book ")
        QTY=int(input("enter Quantity of book "))
        if name in Book_List:
            QTY=Book_List[name]+QTY
        else:
            QTY=QTY
        Book_List.update({name:QTY})




# Display a list of all available books with the number of copies for each.
def Display_Available_Books():
    global Book_List
    for k,v in Book_List.items():
        print(k,v)




# Allow users to borrow books, reducing the available copies by 1.
def Borrow_Books():
    ans=int(input("Enter No. of book you want to borrow "))
    for i in range(ans):
        name=input("Enter name of book ")
        QTY=int(input("Enter Quntity "))
        # Prevent users from borrowing books that are out of stock.
        if name not in Book_List.keys():
            print("Entered book is out of Stock")
            continue
```

```python
        else:
            Book_List[name]=Book_List[name]-QTY

# Menu
def Menu(n):

    if n==1:
        Add_Books()
    elif n==2:
        Display_Available_Books()
    elif n==3:
        Borrow_Books()
print("Select Your Choice")
print("1.Add_Books")
print("2.Display_Available_Books")
print("3.Borrow _Books")
print("4.Exist")

n=int(input("Enter Your Choice "))
while(n!=4):
    Menu(n)
    ans=input("if you want to continue press y if not press n ")
    if ans=='y':
        print("1.Add_Books")
        print("2.Display_Available_Books")
        print("3.Borrow _Books")
        n=int(input("Enter Your Choice "))
    else:
        n=4
print("Thank you For Visiting \U0001F600")
```

Output

Test 1: Menu Test

```
PS C:\Lavanya_Code\Python_Lectures_Assignments\Library_Management_
Select Your Choice
1.Add_Books
2.Display_Available_Books
3.Borrow _Books
4.Exist
Enter Your Choice 4
Thank you For Visiting 😬
```

Test 2 :Adding New books

```
Enter Your Choice 1
Enter No.of books you want to add 2
Enter Name Of book Mindset
enter Quantity of book 4
Enter Name Of book Eating a Frog
enter Quantity of book 10
if you want to continue press y if not press n
```

Test 3: Displaying Available all books

```
The Slight Edge 7
The 5 AM Club 10
Becoming 9
The Science of Getting Rich 5
Principles: Life and Work 6
The Compound Effect 7
The Success Principles 8
Awaken the Giant Within 12
You Can Heal Your Life 10
The Untethered Soul 13
The One Thing 11
The Confidence Gap 8
Who Moved My Cheese? 6
The Motivation Manifesto 5
The Big Leap 7
The Little Book of Hygge 7
Rising Strong 9
The Confidence Code 8
The Motivation Hacker 7
Mindset  4
Eating a Frog  10
```

Test 4: adding available books

```
Enter Your Choice 1
Enter No.of books you want to add 1
Enter Name Of book Deep Work
enter Quantity of book 4
```

Before adding book QTY

```
The Lean Startup 7
The 48 Laws of Power 6
Deep Work 8
Daring Greatly 11
The Secret 13
The Magic of Thinking Big 8
The Slight Edge 7
The 5 AM Club 10
```

After adding book QTY

```
The 48 Laws of Power 6
Deep Work 12
Daring Greatly 11
The Secret 13
The Magic of Thinking Big
```

Test 6: Borrow Books Out of stock

```
Enter Your Choice 3
Enter No. of book you want to borrow 2
Enter name of book lavanya
Enter Quntity 3
Entered book is out of Stock
Enter name of book
```

Test 7: Enter valid book name

```
Enter name of book Deep Work
Enter Quntity 4
if you want to continue press y if not press n
```

Before borrow

```
The Lean Startup 7
The 48 Laws of Power 6
Deep Work 8
Daring Greatly 11
The Secret 13
The Magic of Thinking Big 8
The Slight Edge 7
The 5 AM Club 10
```

```
The 48 Laws of Power 6
Deep Work 4
Daring Greatly 11
The Secret 13
The Magic of Thinking Big 8
```