EX.NO:	**STUDENT MARK REPORT APPLICATION USING VARIOUS LISTS**
DATE: / /2025	

AIM

To Implement Student mark report applications using various lists.

SOURCE CODE:

```
def student_marks_analyzer():
    marks = []
    n = int(input("Enter number of subjects: ")
    for i in range(n):
        m = int(input(f"Enter mark for subject {i+1}: "))
        marks.append(m)
    print("\n--- Student Marks Report ---")
    print("Marks:", marks)
    print("Total =", sum(marks))
    print("Average =", sum(marks) / n)
    print("Highest mark =", max(marks))
    print("Lowest mark =", min(marks))
def matrix_addition():
    print("\nMatrix A and B are 2x2 fixed matrices"
    A = [[1, 2], [3, 4]]
    B = [[5, 6], [7, 8]]
    C = [[0, 0], [0, 0]]
    for i in range(2):
        for j in range(2):
            C[i][j] = A[i][j] + B[i][j]
    print("\n--- Matrix Addition Result ---")
    for row in C:
        print(row)
def word_occurrence():
    sentence = input("Enter a sentence: ")
    words = sentence.split()
    print("Words:", words
    search = input("Enter a word to search: ")
    print("Occurrences:", words.count(search))
def shopping_cart():
    cart = []
    while True:
```

```
        print("\n1. Add Item\n2. Remove Item\n3. View Cart\n4. Exit Cart")
        ch = int(input("Enter choice: "))
        if ch == 1:
            item = input("Enter item to add: ")
            cart.append(item)
        elif ch == 2:
            item = input("Enter item to remove: ")
            if item in cart:
                cart.remove(item)
            else:
                print("Item not found!")
        elif ch == 3:
            print("Cart Items:", cart)
        elif ch == 4:
            break
def even_number_extractor():
    numbers = list(range(1, 21))
    evens = [x for x in numbers if x % 2 == 0]
    print("All Numbers:", numbers)
    print("Even Numbers:", evens
while True:
    print("\n====== LIST APPLICATIONS MENU ======")
    print("1. Student Marks Analyzer")
    print("2. Matrix Addition using Nested Lists")
    print("3. Word Occurrence Counter")
    print("4. Shopping Cart Application")
    print("5. Even Number Extractor using List Comprehension")
    print("6. Exit"
    choice = int(input("Enter your choice: "))
    if choice == 1:
        student_marks_analyzer()
    elif choice == 2:
        matrix_addition()
    elif choice == 3:
        word_occurrence()
    elif choice == 4:
        shopping_cart()
    elif choice == 5:
        even_number_extractor()
    elif choice == 6:
        print("Exiting Program...")
        break
    else:
        print("Invalid choice! Try again.")
```

OUTPUT:

```
====== LIST APPLICATIONS MENU ======
1. Student Marks Analyzer
2. Matrix Addition using Nested Lists
3. Word Occurrence Counter
4. Shopping Cart Application
5. Even Number Extractor using List Comprehension
6. Exit
Enter your choice: 1
Enter number of subjects: 5
Enter mark for subject 1: 87
Enter mark for subject 2: 96
Enter mark for subject 3: 57
Enter mark for subject 4: 89
Enter mark for subject 5: 79
-- Student Marks Report ---
Marks: [87, 96, 57, 89, 79]
Total = 408
Average = 81.6
Highest mark = 96
Lowest mark = 57

====== LIST APPLICATIONS MENU ======
1. Student Marks Analyzer
2. Matrix Addition using Nested Lists
3. Word Occurrence Counter
4. Shopping Cart Application
5. Even Number Extractor using List Comprehension
6. Exit
Enter your choice: 2
Matrix A and B are 2x2 fixed matrices
---Matrix Addition Result - [6,8]

====== LIST APPLICATIONS MENU ======
1. Student Marks Analyzer
2. Matrix Addition using Nested Lists
3. Word Occurrence Counter
4. Shopping Cart Application
5. Even Number Extractor using List Comprehension
6. Exit
Enter your choice: 3
Enter a sentence: the sky is the limit
Words: ['the', 'sky', 'is', 'the', 'limit']
Enter a word to search: the
Occurrences: 2
```

====== LIST APPLICATIONS MENU ======
1. Student Marks Analyzer
2. Matrix Addition using Nested Lists
3. Word Occurrence Counter
4. Shopping Cart Application
5. Even Number Extractor using List Comprehension
6. Exit
Enter your choice: 4
1. Add Item
2. Remove Item
3. View Cart
4. Exit Cart
Enter your choice: 4

====== LIST APPLICATIONS MENU ======
1. Student Marks Analyzer
2. Matrix Addition using Nested Lists
3. Word Occurrence Counter
4. Shopping Cart Application
5. Even Number Extractor using List Comprehension
6. Exit
Enter your choice: 5
All Numbers: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
Even Numbers: [2, 4, 6, 8, 10, 12, 14, 16, 18, 20]

====== LIST APPLICATIONS MENU ======
1. Student Marks Analyzer
2. Matrix Addition using Nested Lists
3. Word Occurrence Counter
4. Shopping Cart Application
5. Even Number Extractor using List Comprehension
6. Exit
Enter your choice: 6

RESULT:

The program has been successfully executed.