Institute of Computer Technology
B. Tech. Computer Science and Engineering
Sub: ESFP – II
Class Code: 2CSE203
Practical - 6

Objective: Make sample project using class, object, cout, cin, endl, getline() function, ignore(), and looping.

Preform the following instruction in sample project.

1. Insert minimum 5 newly available cars information in a showroom.
2. Display all newly cars to customer if selected to display.
3. Find most expensive car from the showroom.
4. Find most cheaper car from showroom.
5. Sort the cars by price in ascending or descending order to display as per the customers choice.

Car input:

Car model, Car Brand, Car Manufacturing year, Car Color, Car Price.

Screenshots:

```cpp
#include <iostream>
#include <string>
using namespace std;
class Car {
public:
    string modelName;
    string brand;
    int manyear;
    string color;
    double price;
    void Insert() {
        cout << "Enter Car Model:";
        cin.ignore();
        getline(cin,modelName);
        cout << "Enter Brand Name:";
        getline(cin,brand);
        cout << "Enter Manufacturing year:";
        cin >> manyear;
        cin.ignore();
        cout << "Enter Car Color:";
        getline(cin, color);
        cout << "Enter Car Price:";
        cin >> price;
    }
    void display() {
        cout << "Car Model:" << modelName << endl;
        cout << "Car Brand:" << brand << endl;
        cout << "Car Manufacture Year:" << manyear << endl;
        cout << "Car color:" << color << endl;
        cout << "Car Price:" << price << endl;
    }
    void ascending(Car cars[], int numcars) {
        for (int i = 0; i < numcars - 1; i++) {
            for (int j = 0; j < numcars - 1 - i; j++) {
                if (cars[j].price > cars[j + 1].price) {
                    Car temp = cars[j];
                    cars[j] = cars[j + 1];
```

```
                    cars[j + 1] = temp;
                }
            }
        }
    }
    void descending(Car cars[], int numcars) {
        for (int i = 0; i < numcars - 1; i++) {
            for (int j = 0; j < numcars - 1 - i; j++) {
                if (cars[j].price < cars[j + 1].price) {
                    Car temp = cars[j];
                    cars[j] = cars[j + 1];
                    cars[j + 1] = temp;
                }
            }
        }
    }
};
int main() {
    int Choice;
    int numcars = 0;
    Car cars[100];
    do {
        cout << "Press 1 for Insert Car Details:" << endl;
        cout << "Press 2 for Display Car Details" << endl;
        cout << "Press 3 for Finding Most Expensive Car:" << endl;
        cout << "Press 4 for Finding Most Cheaper Car:" << endl;
        cout << "Press 5 for Sorting car by price in ascending order:" << endl;
        cout << "Press 6 to Exit:" << endl;
        cout << "Enter Your Choice:" << endl;
        cin >> Choice;
        switch (Choice) {
            case 1: {
                cout << "Enter the Number of cars you want to Insert:" << endl;
                cin >> numcars;
                for (int i = 0; i < numcars; ++i) {
                    cout << "Enter Car Details for:" << i + 1 << endl;
                    cars[i].Insert();
```

```
            }
            break;
        }
        case 2: {
            for (int i = 0; i < numcars; ++i) {
                cout << "Details of Car " << i + 1 << ":" << endl;
                cars[i].display();
                cout << endl;
            }
            break;
        }
        case 3: {
            if (numcars > 0) {
                Car expensiveCar = cars[0];
                for (int i = 1; i < numcars; ++i) {
                    if (cars[i].price > expensiveCar.price) {
                        expensiveCar = cars[i];
                    }
                }
                cout << "Most Expensive Car Details:" << endl;
                expensiveCar.display();
            } else {
                cout << "No cars available. Insert cars first." << endl;
            }
            break;
        }
        case 4: {
            if (numcars > 0) {
                Car cheapCar = cars[0];
                for (int i = 1; i < numcars; ++i) {
                    if (cars[i].price < cheapCar.price) {
                        cheapCar = cars[i];
                    }
                }
                cout << "Most Cheapest Car Details:" << endl;
                cheapCar.display();
            } else {
```

```
            case 6: {
                cout << "Exiting the program. Goodbye!" << endl;
                break;
            }
```

```
                }
            }
            break;
        }
    }
} while (Choice != 6);
return 0;
}
```

Output:

```
Press 1 for Insert Car Details:
Press 2 for Display Car Details
Press 3 for Finding Most Expensive Car:
Press 4 for Finding Most Cheaper Car:
Press 5 for Sorting car by price in ascending order:
Press 6 to Exit:
Enter Your Choice:
1
Enter the Number of cars you want to Insert:
3
Enter Car Details for:1
Enter Car Model:Dzire
Enter Brand Name:maruti Suzuki
Enter Manufacturing year:2023
Enter Car Color:White
Enter Car Price:750000
Enter Car Details for:2
Enter Car Model:Verna
Enter Brand Name:Maruti Suzuki
Enter Manufacturing year:2024
Enter Car Color:Blue
Enter Car Price:900000
Enter Car Details for:3
Enter Car Model:Creta
Enter Brand Name:Hundai
Enter Manufacturing year:2023
Enter Car Color:Black
Enter Car Price:1000000
Press 1 for Insert Car Details:
Press 2 for Display Car Details
Press 3 for Finding Most Expensive Car:
Press 4 for Finding Most Cheaper Car:
Press 5 for Sorting car by price in ascending order:
Press 6 to Exit:
Enter Your Choice:
2
Details of Car 1:
Car Model:Dzire
Car Brand:maruti Suzuki
Car Manufacture Year:2023
Car color:White
Car Price:750000

Details of Car 2:
Car Model:Verna
```

```
Car Brand:Maruti Suzuki
Car Manufacture Year:2024
Car color:Blue
Car Price:900000

Details of Car 3:
Car Model:Creta
Car Brand:Hundai
Car Manufacture Year:2023
Car color:Black
Car Price:1e+06

Press 1 for Insert Car Details:
Press 2 for Display Car Details
Press 3 for Finding Most Expensive Car:
Press 4 for Finding Most Cheaper Car:
Press 5 for Sorting car by price in ascending order:
Press 6 to Exit:
Enter Your Choice:
3
Most Expensive Car Details:
Car Model:Creta
Car Brand:Hundai
Car Manufacture Year:2023
Car color:Black
Car Price:1e+06
Press 1 for Insert Car Details:
Press 2 for Display Car Details
Press 3 for Finding Most Expensive Car:
Press 4 for Finding Most Cheaper Car:
Press 5 for Sorting car by price in ascending order:
Press 6 to Exit:
Enter Your Choice:
4
Most Cheapest Car Details:
Car Model:Dzire
Car Brand:maruti Suzuki
Car Manufacture Year:2023
Car color:White
Car Price:750000
Press 1 for Insert Car Details:
Press 2 for Display Car Details
Press 3 for Finding Most Expensive Car:
Press 4 for Finding Most Cheaper Car:
Press 5 for Sorting car by price in ascending order:
```

```
Press 6 to Exit:
Enter Your Choice:
5
Input 1 for ascending & 2 for descending:
1
Cars sorted in ascending order by price:
Details of Car 1:
Car Model:Dzire
Car Brand:maruti Suzuki
Car Manufacture Year:2023
Car color:White
Car Price:750000

Details of Car 2:
Car Model:Verna
Car Brand:Maruti Suzuki
Car Manufacture Year:2024
Car color:Blue
Car Price:900000

Details of Car 3:
Car Model:Creta
Car Brand:Hundai
Car Manufacture Year:2023
Car color:Black
Car Price:1e+06

Exiting the program. Goodbye!
Press 1 for Insert Car Details:
Press 2 for Display Car Details
Press 3 for Finding Most Expensive Car:
Press 4 for Finding Most Cheaper Car:
Press 5 for Sorting car by price in ascending order:
Press 6 to Exit:
Enter Your Choice:
6
Exiting the program. Goodbye!
```