Faculty of Technology and Engineering

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Course code	:	CE144	Course name	:	OOPC

Practical – 3 Lab Manual

INPUTS

Task – 1 : Feed car details in the system

Number of cars (3 digit number), Model name (string with space), Fuel type (values can be petrol, diesel, cng, electric), Showroom price (floating point number), Mileage (floating point number), Transmission (values can be Manual or AMT), Tank capacity (floating point number), seating (1 digit number), Airbags (values can be Yes or No)

Task – 2: Retrieve car data based on different options

Option 1 : Model name Option 2 : Fuel type Option 3 : Price range

EXPECTED OUTPUTS

```
WELCOME TO TATA MOTORS

GET THE CAR DETAILS AS PER YOUR PREFERENCE

(1) Model Name (2) Fuel Type (3) Price Range

ENTER YOUR OPTION : 1

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LIST OF TATA CARS

 (1) TIAGO      (2) PUNCH      (3) ALTROZ      (4) TIGOR      (5) NEXON
 (6) HARRIER    (7) SAFARI


CHOOSE YOUR CAR TO GET DETAILS : 2

 Model  Fuel  Price (Lakhs)  Mileage (km/L)  Transmission  Tank Capacity (Liters)  Seating Capacity  Airbags
 PUNCH  Diesel  10.5  20  AMT  37  5  Yes
```

WELCOME TO TATA MOTORS

GET THE CAR DETAILS AS PER YOUR PREFERENCE

(1) Model Name (2) Fuel Type (3) Price Range

ENTER YOUR OPTION : 2

TATA MOTORS ARE AVAILABLE WITH FUEL OPTIONS

(1) Petrol (2) Diesel (3) CNG (4) Electric

ENTER YOUR FUEL PREFERENCE : 2

Model	Fuel	Price (Lakhs)	Mileage (km/L)	Transmission	Tank Capacity (Liters)	Seating Capacity	Airbags
NEXON	Diesel	15.5	23	Manual	44	5	Yes
PUNCH	Diesel	10.5	20	AMT	37	5	Yes
HARRIER	Diesel	26.4	14.6	AMT	50	5	Yes

WELCOME TO TATA MOTORS

GET THE CAR DETAILS AS PER YOUR PREFERENCE

(1) Model Name (2) Fuel Type (3) Price Range

ENTER YOUR OPTION : 3

ENTER YOUR MAXIMUM AFFORDABLE RANGE IN LAKHS : 20

Model	Fuel	Price (Lakhs)	Mileage (km/L)	Transmission	Tank Capacity (Liters)	Seating Capacity	Airbags
TIAGO	Petrol	8.2	19	Manual	60	5	Yes
PUNCH	Diesel	10.5	20	AMT	37	5	Yes

CONCEPTS TO BE USED

class

- It is the user defined datatype.
- It can hold multiple data of different types (called data member) along with the functions (called member function) to operate on those data.
- Default access specifier is private

Example code

```
#include <iostream>
using namespace std;
class abc
{
        int     a;
        float   b;
        public:
        void getdata()
        {
                cin >> a >> b;
        }
        void putdata()
        {
                cout << a << b;
        }
};
```

```
int main()
{
        class  abc  A;
        A.getdata();
        A.putdata();
        return 0;
}
```

```
#include <iostream>
using namespace std;
class abc
{
        public:
        void getdata()
        {
                cin >> a >> b;
        }
        void putdata()
        {
                cout << a << b;
        }
        private:
        int     a;
        float   b;

}A;
```

```
int main()
{
        A.getdata();
        A.putdata();
        return 0;
}
```

PRACTICE PROGRAM

1. Develop a C++ based library management system. The system stores the information of book and project reports. Book information are Book number (5 digit number), Book name (string with space), Anther name (string with space), Edition (2 digit number), Year of publication (4 digit number). Project information are like Project tile (string withs space), Student ID (alphanumeric of length 6 to 7), Department (string with space), Academic year (4 digit number). The librarian stores the details of multiple books and reports. He can retrieve the specific book details by entering the book number and specific report details by entering student ID.

2. Develop a C++ based railway train listing system. Railway officer feed train details like train number (5 digit number), Start station name (string without space), End station name (string without space), Number of coaches (2 digit number). Display details of all trained on a train listing board.