**DAY 3**

**Boss and Employee**

#include <iostream>

#include <string>

#include <cstdlib>

#include <ctime>

using namespace std;

class Employee

{

  string name;

  int age;

  int id;

  int salary;

public:

  Employee()

  {

    id = rand() % 1000;

  }

  void setEmployee()

  {

    cout << "Enter the name: ";

    cin >> name;

    cout << "Enter the age: ";

    cin >> age;

  }

*friend* class Boss;

};

class Boss

{

public:

  void setSalary(Employee *&*emp)

  {

    cout << "Enter the salary: ";

    cin >> emp.salary;

  }

  void increaseSalary(Employee *&*emp)

  {

    cout << "Enter the increment: ";

    int increment;

    cin >> increment;

    emp.salary += increment;

  }

  void displayEmployee(Employee *&*emp)

  {

    cout << "Name: " << emp.name << endl;

    cout << "Age: " << emp.age << endl;

    cout << "ID: " << emp.id << endl;

    cout << "Salary: " << emp.salary << endl;

  }

};

int main()

{

  srand(time(0));

  cout << "Enter the number of employees: ";

  int n;

  cin >> n;

  Employee \*emp = new Employee[n];

  Boss boss;

  for (int i = 0; i < n; i++)

  {

    emp[i].setEmployee();

    boss.setSalary(emp[i]);

  }

  for (int i = 0; i < n; i++)

  {

    boss.displayEmployee(emp[i]);

    boss.increaseSalary(emp[i]);

    boss.displayEmployee(emp[i]);

  }

  delete[] emp;

  return 0;

}

**Vehicle**

#include <iostream>

#include <string>

using namespace std;

class Vehicle

{

protected:

  string name;

  int mileage;

public:

  void setVehicle()

  {

    cout << "Enter the name: ";

    cin >> name;

    cout << "Enter the mileage: ";

    cin >> mileage;

  }

};

class four\_wheeler : public Vehicle

{

  int passengers;

  int color;

public:

  void setFourWheeler()

  {

    setVehicle();

    cout << "Enter the number of passengers: ";

    cin >> passengers;

    cout << "Enter the color: ";

    cin >> color;

  }

  void displayFourWheeler()

  {

    cout << "Name: " << name << endl;

    cout << "Mileage: " << mileage << endl;

    cout << "Number of Passengers: " << passengers << endl;

    cout << "Color: " << color << endl;

  }

};

class two\_wheeler : public Vehicle

{

  int engine\_capacity;

public:

  void setTwoWheeler()

  {

    setVehicle();

    cout << "Enter the engine capacity: ";

    cin >> engine\_capacity;

  }

  void displayTwoWheeler()

  {

    cout << "Name: " << name << endl;

    cout << "Mileage: " << mileage << endl;

    cout << "Engine Capacity: " << engine\_capacity << endl;

  }

};

int main()

{

  four\_wheeler car;

  car.setFourWheeler();

  car.displayFourWheeler();

  two\_wheeler bike;

  bike.setTwoWheeler();

  bike.displayTwoWheeler();

  return 0;

}

**Array traversal**

#include <iostream>

using namespace std;

int main()

{

  cout << "Enter the size of the array: ";

  int size;

  cin >> size;

  int \*arr = new int[size];

  cout << "Enter the elements of the array: ";

  for (int i = 0; i < size; i++)

  {

    cin >> arr[i];

  }

*// Increment pointer*

  int \*ptr = arr;

  cout << "The elements of the array are: ";

  for (int i = 0; i < size; i++)

  {

    cout << \*ptr << " ";

    ptr++;

  }

  cout << endl;

*// Array name as pointer*

  cout << "The elements of the array are: ";

  for (int i = 0; i < size; i++)

  {

    cout << \*(arr + i) << " ";

  }

  cout << endl;

  delete[] arr;

  return 0;

}