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;
}
```