C:\Users\Hemasundara Rao\OneDrive\Documents\Inheritance for vehicle.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Arranging the array in zig zag function.cpp | Area of square and circle using abstract class.cpp

Determine the extra element in the class.cpp | Print name of the student by using student class.cpp | Inheritance for vehicle.cpp

```cpp
#include <iostream>
#include <string>
using namespace std;
class Vehicle {
protected:
    string vehicleModel;
    string registrationNumber;
    double vehicleSpeed;
    double fuelCapacity;
    double fuelConsumption;
public:
    Vehicle(string model, string regNumber, double speed, double capacity, double consumption)
        : vehicleModel(model), registrationNumber(regNumber), vehicleSpeed(speed), fuelCapacity(c
    string getVehicleModel() const { return vehicleModel; }
    string getRegistrationNumber() const { return registrationNumber; }
    double getVehicleSpeed() const { return vehicleSpeed; }
    double getFuelCapacity() const { return fuelCapacity; }
    double getFuelConsumption() const { return fuelConsumption; }
    void setVehicleModel(string model) { vehicleModel = model; }
    void setRegistrationNumber(string regNumber) { registrationNumber = regNumber; }
    void setVehicleSpeed(double speed) { vehicleSpeed = speed; }
    void setFuelCapacity(double capacity) { fuelCapacity = capacity; }
    void setFuelConsumption(double consumption) { fuelConsumption = consumption; }
    double fuelNeeded(double distance) const {
        return distance / fuelConsumption;
    }
    double distanceCovered(double time) const {
        return vehicleSpeed * time;
    }
    virtual void display() const {
        cout << "Vehicle Model: " << vehicleModel << endl;
        cout << "Registration Number: " << registrationNumber << endl;
        cout << "Vehicle Speed: " << vehicleSpeed << " km/h" << endl;
        cout << "Fuel Capacity: " << fuelCapacity << " liters" << endl;
        cout << "Fuel Consumption: " << fuelConsumption << " km/liter" << endl;
    }
```

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```
Bus Information:
Vehicle Model: Mercedes-Benz
Registration Number: ABC-1234
Vehicle Speed: 80 km/h
Fuel Capacity: 300 liters
Fuel Consumption: 5 km/liter
Fuel needed for 500 km: 100 liters
Distance covered in 5 hours: 400 km

Truck Information:
Vehicle Model: Volvo
Registration Number: XYZ-5678
Vehicle Speed: 60 km/h
Fuel Capacity: 500 liters
Fuel Consumption: 3 km/liter
Fuel needed for 500 km: 166.667 liters
Distance covered in 5 hours: 300 km

--------------------------------
Process exited after 1.467 seconds with retur
n value 0
Press any key to continue . . .
```

Compiler | Resources | Compile Log | Debug | Find Results | Console | Close

Abort Compilation

- Compilation Time: 0.73s

Line: 6 Col: 25 Sel: 0 Lines: 75 Length: 3110 Insert Done parsing in 0 seconds

C:\Users\Hemasundara Rao\OneDrive\Documents\Arranging the array in zig zag function.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Arranging the array in zig zag function.cpp

```cpp
#include <iostream>
#include <vector>
using namespace std;

void zigzagArray(vector<int>& arr) {
    bool flag = true;
    for (int i = 0; i < arr.size() - 1; i++) {
        if (flag) {
            if (arr[i] > arr[i + 1])
                swap(arr[i], arr[i + 1]);
        } else {
            if (arr[i] < arr[i + 1])
                swap(arr[i], arr[i + 1]);
        }
        flag = !flag;
    }
}
int main() {
    vector<int> arr = {4, 3, 7, 8, 6, 2, 1};
    zigzagArray(arr);

    for (int i = 0; i < arr.size(); i++)
        cout << arr[i] << " ";
    cout << endl;

    return 0;
}
```

C:\Users\Hemasundara Rao\C

```
3 7 4 8 2 6 1

--------------------------------
Process exited after 1.468 seconds with return value 0
Press any key to continue . . .
```

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Compilation Time: 0.77s

Line: 1 Col: 20 Sel: 0 Lines: 28 Length: 617 Insert Done parsing in 0.485 seconds

C:\Users\Hemasundara Rao\OneDrive\Documents\Area of square and circle using abstract class.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Arranging the array in zig zag function.cpp | Area of square and circle using abstract class.cpp

```cpp
class Circle : public Shape {
private:
    double radius;
public:
    Circle(double r) : radius(r) {}

    double area() override {
        return M_PI * radius * radius;
    }
};
int main() {
    double radius, side;

    cout << "Enter radius of the circle: ";
    cin >> radius;
    cout << "Enter the length of the square: ";
    cin >> side;
    Shape* circle = new Circle(radius);
    Shape* square = new Square(side);
    cout << "Area of Square: " << square->area() << endl;
    cout << "Area of Circle: " << circle->area() << endl;
    delete circle;
    delete square;
    return 0;
}
```

```
C:\Users\Hemasundara Rao\C
Enter radius of the circle: 5
Enter the length of the square: 4
Area of Square: 16
Area of Circle: 78.5398

--------------------------------
Process exited after 4.076 seconds with return value 0
Press any key to continue . . .
```

Compiler | Resources | Compile Log | Debug | Find Results | Console | Close

Abort Compilation

- Compilation Time: 0.80s

Line: 42 Col: 19 Sel: 0 Lines: 45 Length: 920 Insert Done parsing in 0.032 seconds

C:\Users\Hemasundara Rao\OneDrive\Documents\Determine the extra element in the class.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Arranging the array in zig zag function.cpp | Area of square and circle using abstract class.cpp | Determine the extra element in the class.cpp

```cpp
#include <iostream>
#include <unordered_set>
using namespace std;

void EXTRA_ELE(int A[], int B[], int N) {
    unordered_set<int> elements;
    for (int i = 0; i < N - 1; ++i) {
        elements.insert(B[i]);
    }
    for (int i = 0; i < N; ++i) {
        if (elements.find(A[i]) == elements.end()) {
            cout << "Extra element in array A: " << A[i] << endl;
            return;
        }
    }
    cout << "No extra element found." << endl;
}
int main() {
    int A[] = {14, 21, 5, 19, 8, 4, 23, 11};
    int B[] = {23, 8, 19, 4, 14, 11, 5};
    int N = sizeof(A) / sizeof(A[0]);
    EXTRA_ELE(A, B, N);
    return 0;
}
```

```
C:\Users\Hemasundara Rao\
Extra element in array A: 21

--------------------------------
Process exited after 1.553 seconds with return v
alue 0
Press any key to continue . . .
```

Compiler | Resources | Compile Log | Debug | Find Results | Console | Close

Abort Compilation

```
- Compilation Time: 0.80s
```

Line: 24 Col: 2 Sel: 0 Lines: 24 Length: 654 Insert | Done parsing in 0.125 seconds

C:\Users\Hemasundara Rao\OneDrive\Documents\Print name of the student by using student class.cpp - [Executing] - Embarcadero Dev-C++ 6.3

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TDM-GCC 9.2.0 64-bit Release

(globals)

Arranging the array in zig zag function.cpp | Area of square and circle using abstract class.cpp

Determine the extra element in the class.cpp | Print name of the student by using student class.cpp

```cpp
#include <iostream>
#include <string>
using namespace std;

class Student {
private:
    string name;
public:
    Student() {
        name = "Unknown";
    }
    Student(string studentName) {
        name = studentName;
    }
    void printName() {
        cout << "Student Name: " << name << endl;
    }
};
int main() {
    Student student1;
    Student student2("John Doe");
    Student student3("Jane Smith");
    student1.printName();
    student2.printName();
    student3.printName();
    return 0;
```

C:\Users\Hemasundara Rao\C

```
Student Name: Unknown
Student Name: John Doe
Student Name: Jane Smith

--------------------------------
Process exited after 1.662 seconds with return value 0
Press any key to continue . . .
```

Compiler | Resources | Compile Log | Debug | Find Results | Console | Close

Abort Compilation

- Compilation Time: 0.67s

Line: 18 Col: 3 Sel: 0 Lines: 28 Length: 534 Insert | Done parsing in 0.016 seconds

C:\Users\Hemasundara Rao\OneDrive\Documents\Inheritance for vehicle.cpp - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Arranging the array in zig zag function.cpp | Area of square and circle using abstract class.cpp

Determine the extra element in the class.cpp | Print name of the student by using student class.cpp | Inheritance for vehicle.cpp

```cpp
#include <iostream>
#include <string>
using namespace std;
class Vehicle {
protected:
    string vehicleModel;
    string registrationNumber;
    double vehicleSpeed;
    double fuelCapacity;
    double fuelConsumption;
public:
    Vehicle(string model, string regNumber, double speed, double capacity, double consumption)
        : vehicleModel(model), registrationNumber(regNumber), vehicleSpeed(speed), fuelCapacity(c
    string getVehicleModel() const { return vehicleModel; }
    string getRegistrationNumber() const { return registrationNumber; }
    double getVehicleSpeed() const { return vehicleSpeed; }
    double getFuelCapacity() const { return fuelCapacity; }
    double getFuelConsumption() const { return fuelConsumption; }
    void setVehicleModel(string model) { vehicleModel = model; }
    void setRegistrationNumber(string regNumber) { registrationNumber = regNumber; }
    void setVehicleSpeed(double speed) { vehicleSpeed = speed; }
    void setFuelCapacity(double capacity) { fuelCapacity = capacity; }
    void setFuelConsumption(double consumption) { fuelConsumption = consumption; }
    double fuelNeeded(double distance) const {
        return distance / fuelConsumption;
    }
    double distanceCovered(double time) const {
        return vehicleSpeed * time;
    }
    virtual void display() const {
        cout << "Vehicle Model: " << vehicleModel << endl;
        cout << "Registration Number: " << registrationNumber << endl;
        cout << "Vehicle Speed: " << vehicleSpeed << " km/h" << endl;
        cout << "Fuel Capacity: " << fuelCapacity << " liters" << endl;
        cout << "Fuel Consumption: " << fuelConsumption << " km/liter" << endl;
    }
```

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```
Bus Information:
Vehicle Model: Mercedes-Benz
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--------------------------------
Process exited after 1.467 seconds with retur
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Press any key to continue . . .
```

Compiler | Resources | Compile Log | Debug | Find Results | Console | Close

Abort Compilation

- Compilation Time: 0.73s

Line: 6 Col: 25 Sel: 0 Lines: 75 Length: 3110 Insert Done parsing in 0 seconds