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1. Write a c++ program to create a class for a bank account with a constructor and a destructor

Code:

#include <iostream>

#include <string>

class BankAccount {

private:

std::string accountNumber;

double balance;

public:

BankAccount(std::string accNumber, double initialBalance) : accountNumber(accNumber), balance(initialBalance) {

std::cout << "Account created with number: " << accountNumber << std::endl;

}

~BankAccount() {

std::cout << "Account with number " << accountNumber << " is destroyed." << std::endl;

}

};

int main() {

BankAccount myAccount("123456789", 1000.0);

return 0;

}

Output:

Account created with number: 123456789

Account with number 123456789 is destroyed.

1. Write a c++ program to create a class for a car with a constructor and a destructor

Code:

#include <iostream>

#include <string>

class Car {

private:

std::string brand;

std::string model;

int year;

public:

// Constructor

Car(std::string brandName, std::string modelName, int manufactureYear) : brand(brandName), model(modelName), year(manufactureYear) {

std::cout << "A " << year << " " << brand << " " << model << " is created." << std::endl;

}

// Destructor

~Car() {

std::cout << "The " << year << " " << brand << " " << model << " is destroyed." << std::endl;

}

};

int main() {

// Creating an instance of Car

Car myCar("Toyota", "Corolla", 2022);

return 0;

}

Output:

A 2022 Toyota Corolla is created.

The 2022 Toyota Corolla is destroyed.

1. Write a c++ program to create a class for a rectangle with a constructor and a destructor

Code:

#include <iostream>

class Rectangle {

private:

double length;

double width;

public:

// Constructor

Rectangle(double len, double wid) : length(len), width(wid) {

std::cout << "Rectangle object created." << std::endl;

}

// Destructor

~Rectangle() {

std::cout << "Rectangle object destroyed." << std::endl;

}

// Method to calculate area

double calculateArea() {

return length \* width;

}

};

int main() {

// Creating an instance of Rectangle

Rectangle myRectangle(5.0, 3.0);

// Calculating and displaying the area

std::cout << "Area of the rectangle: " << myRectangle.calculateArea() << std::endl;

return 0;

}

Output:

Rectangle object created.

Area of the rectangle: 15

Rectangle object destroyed.

1. Write a c++ program to create a class for a book with a constructor and a destructor

Code:

#include <iostream>

#include <string>

class Book {

private:

std::string title;

std::string author;

public:

// Constructor

Book(std::string bookTitle, std::string bookAuthor) : title(bookTitle), author(bookAuthor) {

std::cout << "Book object created: " << title << " by " << author << std::endl;

}

// Destructor

~Book() {

std::cout << "Book object destroyed: " << title << " by " << author << std::endl;

}

};

int main() {

// Creating an instance of Book

Book myBook("The Great Gatsby", "F. Scott Fitzgerald");

return 0;

}

Output:

Book object created: The Great Gatsby by F. Scott Fitzgerald

Book object destroyed: The Great Gatsby by F. Scott Fitzgerald

1. Write a c++ program to create a class for student with a constructor and a destructor

Code:

#include <iostream>

#include <string>

class Student {

private:

std::string name;

int age;

public:

// Constructor

Student(std::string studentName, int studentAge) : name(studentName), age(studentAge) {

std::cout << "Student object created: " << name << ", Age: " << age << std::endl;

}

// Destructor

~Student() {

std::cout << "Student object destroyed: " << name << ", Age: " << age << std::endl;

}

};

int main() {

// Creating an instance of Student

Student myStudent("John Doe", 20);

return 0;

}

Output:

Student object created: John Doe, Age: 20

Student object destroyed: John Doe, Age: 20