

X

[swayam.gov.in](https://swayam.gov.in)[https://swayam.gov.in/nc\\_details/NPTEL](https://swayam.gov.in/nc_details/NPTEL)

rg0102@srmist.edu.in ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Fundamentals of Object Oriented Programming (course)[Announcements \(announcements\)](#) [About the Course \(preview\)](#) [Q&A \(forum\)](#) [Progress \(student/home\)](#) [Mentor \(student/mentor\)](#)[Review Assignment \(assignment\\_review\)](#) [Course Recommendations New! \(/course\\_recommendations\)](#)[Click to register for  
Certification exam](https://examform.nptel.ac.in/2025_01/ExamForm/11shubam)[https://examform.nptel.ac.in/2025\\_01/ExamForm/11shubam](https://examform.nptel.ac.in/2025_01/ExamForm/11shubam)[If already registered, click  
to check your payment  
status](#)[Course outline](#)[About NPTEL \(\)](#)

## Week 12: Assignment 12

The due date for submitting this assignment has passed.

**Due on 2025-04-16, 23:59 IST.**

Assignment submitted on 2025-04-15, 21:27 IST

1) Which of the following statements about constructors in Java is correct?

**1 point**

- ☐ Constructors can have a return type.
- ☐ A class can have only one constructor.
- ☒ Constructors are automatically called when an object is created.
- ☐ Constructors cannot be overloaded.

**How does an NPTEL online course work? ()****Week 0 ()****Week 1 ()****Week 2 ()****Week 3 ()****Week 4 ()****Week 5 ()****Week 6 ()****Week 7 ()****Week 8 ()****Week 9 ()****Week 10 ()****Week 11 ()****Week 12 ()**

- ☐ Case Study - Mathematical Computation Framework

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Constructors are automatically called when an object is created.*

2) Which of the following best describes dynamic polymorphism?

**1 point**

- ☐ Function overloading
- ☐ Operator overloading
- ☒ Method overriding
- ☐ Constructor overloading

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Method overriding*

3) Which of the following best describes data hiding?

**1 point**

- ☒ Using access specifiers to restrict access to class members.
- ☐ Declaring all attributes as public.
- ☐ Avoiding the use of constructors.
- ☐ Using only static methods in a class.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Using access specifiers to restrict access to class members.*

4) Which of the following is a checked exception in Java?

**1 point**

- ☐ ArithmeticException
- ☒ IOException
- ☐ NullPointerException
- ☐ ArrayIndexOutOfBoundsException

(C++) (unit?  
unit=64&lesson=119)

☐ Case Study - Hotel  
reservation System (C++)  
(unit?  
unit=64&lesson=120)

☐ Case Study - Online  
Shopping Cart (Java)  
(unit?  
unit=64&lesson=121)

☐ Case Study - Employee  
Payroll System (Java)  
(unit?  
unit=64&lesson=122)

☒ Case Study - Image  
Classification Tool  
(Python) (unit?  
unit=64&lesson=123)

☒ **Quiz: Week 12:  
Assignment 12  
(assessment?  
name=131)**

☐ New Lesson (unit?  
unit=64&lesson=136)

**Download Videos ()**

**Weekly Feedback ()**

Yes, the answer is correct.

Score: 1

Accepted Answers:

*IOException*

5) Which of the following correctly opens a file for reading and writing in C++?

**1 point**

- ☐ `std::ifstream file("data.txt");`  
☐ `std::ofstream file("data.txt");`  
☒ `std::fstream file("data.txt", std::ios::in | std::ios::out);`  
☐ `std::ofstream file("data.txt", std::ios::in);`

Yes, the answer is correct.

Score: 1

Accepted Answers:

*std::fstream file("data.txt", std::ios::in | std::ios::out);*

6) What is the purpose of templates in C++?

**1 point**

- ☐ To enforce runtime type safety.  
☒ To create reusable code that works with any data type.  
☐ To implement runtime polymorphism.  
☐ To overload operators.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*To create reusable code that works with any data type.*

7) Which of the following is a non-modifying STL algorithm?

**1 point**

- ☐ `std::sort()`  
☒ `std::find()`  
☐ `std::copy()`

☐ `std::remove()`

Yes, the answer is correct.

Score: 1

Accepted Answers:

*std::find()*

8) Which of the following is a creational design pattern?

**1 point**

☐ Singleton

☐ Observer

☐ Factory

☒ Both A and C

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Both A and C*

9) Which of the following is true about `std::thread` in C++?

**1 point**

☐ It can only execute functions, not lambdas.

☐ Threads cannot be joined.

☒ A thread must be joined or detached before destruction.

☐ It does not support concurrency.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*A thread must be joined or detached before destruction.*

10) You want to add 0.5 to every earthquake magnitude in `magnitudes = 4.2, 5.8, 3.9, 6.3` but store the modified values in a new vector called `adjusted magnitudes`. Which of the following correctly performs this task?

**1 point**

- ☒ `std::transform(magnitudes.begin(), magnitudes.end(), adjusted_magnitudes.begin(), [](double mag) return mag + 0.5; );`
- ☐ `std::replace(magnitudes.begin(), magnitudes.end(), 6.0, 6.5);`
- ☐ `std::replace_if(magnitudes.begin(), magnitudes.end(), [](double mag) return mag >= 5.0; , 5.5);`
- ☐ `adjusted_magnitudes = std::transform(magnitudes.begin(), magnitudes.end(), [](double mag) return mag + 0.5; );`

Yes, the answer is correct.

Score: 1

Accepted Answers:

`std::transform(magnitudes.begin(), magnitudes.end(), adjusted_magnitudes.begin(), [](double mag) return mag + 0.5; );`