

**Pearson
BTEC Certificates for the Level
3 Software Development
Technician
Apprenticeship Standard
Pearson BTEC Level 3 Certificate in
Programming
Sample Assessment Material**

The live assessment will be an onscreen test.

This Sample Assessment Material takes the form of screen shots showing the appearance of the onscreen test.



BTEC Level 3 Certificate in Programming 603/4534/2V1

Sample Assessment Material

Information for candidates

Instructions

- Answer all questions.
- You may **not** use a dictionary.
- You are provided with the following tools on every screen:
- Accessibility panel that allows you to magnify your screen and apply a range of colour filters.

Information

- The duration of this sample assessment is **60 minutes**. The duration of the live test will **60 minutes**.
- This sample assessment material consists of **20 marks**. The live test will consist of **36 marks**.
- The number of marks for each question is shown in brackets e.g. (1).
- Use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you answer it.
- Keep an eye on the time.
- Check your answers if you have time at the end.

The copyright in the questions is either owned or licensed to Pearson.
Every effort has been made to contact copyright holders to obtain their permission for the use of copyright material.
Pearson will, if notified, be happy to rectify any errors or omissions and include any such rectifications in future editions.

Start Test



◀ Previous

Next ▶

Test Player

Which principle is part of the procedural programming language? (1)

Select **one** option.

- Classes
- Objects
- Blocks
- Events

◀ Previous 1 / 23 Next ▶ ⌚ 01:00 Pause Finish

Test Player

A software development technician is writing an algorithm that contains a pivot.

Which type of sorting algorithm is this? (1)

Select **one** option.

Bubble

Quick

Insertion

Merge

⊕ ? 📄 🚩 ⏪ Previous 2 / 23 Next ⏩ ⌚ 00:59 ⏸ Finish

Test Player

Input=A
Input=B
If A > B then
 Output error message
Else
 Output Welcome message

Which control structure is being used? (1)

Select **one** option.

Sequence

Selection

Iteration

Interface

◁ Previous 3 / 23 Next ▷ ⌚ 00:45 Marks Save

Test Player

A software development technician is writing code that includes storing multiple whole numbers.

Which of these should they use? (1)

Select **one** option.

Boolean

Float

Array

String

ⓘ ? 📄 🚩 ⏪ Previous 4 / 23 Next ⏩ ⌚ 00:59 ⏸ Finish

Test Player

A software development technician is in the final stage of the testing cycle for a new software application.

Which test will they perform? (1)

Select **one** option.

Alpha

Beta

Black box

White box

⊕ ? ↻ 🚩 ⏪ Previous 5 / 23 Next ⏩ ⌚ 00:58 ⏸ Finish

Test Player

Why are algorithms used in the software development lifecycle? (1)

Select **one** option.

- To test the product
- To deploy the product
- To design the product
- To maintain the product

⏪ Previous 6 / 23 Next ⏩ 00:58 Pause Finish

Test Player

Who is responsible for delivering the software on time and in budget? (1)

Select **one** option.

Requirements engineer

Project Manager

Technical Lead

Business analyst

◀ Previous 7 / 23 Next ▶ ⌚ 00:58 Pause Finish

Test Player

```
Class A
{
--
}
Class B extends A {
--
}
```

Which principle of object-orientated programming is shown? (1)

Select **one** option.

- Abstraction
- Encapsulation
- Inheritance
- Polymorphism

ⓘ ? ↵ 🚩 ◀ Previous 8 / 23 Next ▶ ⌚ 00:58 ⏸ Pause ⏹ Finish

Test Player

Which of these is a non-functional requirement in coding? (1)

Select **one** option.

- Calculation
- Data processing
- Data manipulation
- Accessibility

⏪ Previous 9 / 23 Next ⏩ 00:58 Pause Finish

Test Player

A software development technician is carrying out functional testing of the software system.

Which type of testing should be carried out? (1)

Select **one** option.

Unit

Load

Compatibility

Configuration

ⓘ ? ↻ ⏪ ⏩ ⏸ ⏹

◀ Previous 10 / 23 Next ▶ ⌚ 00:58

Pause Finish

Test Player

A software development technician needs to store decimal numbers for use later in the program.

Which type of variable should they use? (1)

Select **one** option.

Integer

Float

Boolean

Character

⏪ Previous 11 / 23 Next ⏩ 00:57 Pause Finish

Test Player

A software development technician needs to connect a piece of software to a database using the JDBC connection method.

What programming language would be used? (1)

Select **one** option.

C

R

Java

Jade

ⓘ ? 📄 🚩 ◀ Previous 12 / 23 Next ▶ ⌚ 00:57 Pause Finish

Which of these is a drawback of using database normalisation? (1)

Select **one** option.

- Reduced data redundancy
- Reduced data duplication
- Increased number of data tables
- Increased number of data queries



◀ Previous

13 / 23

Next ▶

⌚ 00:57

Pause

Finish

Test Player

Which coding standard sets a common style guide for code? (1)

Select **one** option.

Open

Beta

Organisational

Departmental

⊕ ? 📄 🚩 ◀ Previous 14 / 23 Next ▶ ⌚ 00:57 ⏸ Finish

Test Player

Which of these is a key consideration for interface design? (1)

Select **one** option.

- Maintainability
- Memorability
- Security
- Scalability

⊕ ? 📄 🚩 ◀ Previous 15 / 23 Next ▶ ⌚ 00:57 ⏸ Pause ⏹ Finish

Test Player

Which of these is a key technique for defensive programming? (1)

Select **one** option.

- Use of arrays
- Boolean checks
- Use of lists
- Null checks

⊕ ? 📄 🚩

◀ Previous 16 / 23 Next ▶ ⏱ 00:56

⏸ Pause ⏹ Finish

Test Player

A software development technician ensures that they use consistent indentation in their code.

Why is this good coding practice? (1)

Select **one** option.

- To keep a log of events
- To show a logical structure
- To easily identify variables
- To apply error handling

⊕ ? ↵ 🚩 ⏪ Previous 17 / 23 Next ⏩ ⌚ 00:53 ⏸ Finish

Test Player

A software development technician is writing code to select which event handler needs to be run.

What principle of event-driven languages is being used? (1)

Select **one** option.

- Time driven
- Loops
- Trigger function
- Events

⊕ ? ↵ 🚩 ◀ Previous 18 / 23 Next ▶ ⌚ 00:56 ⏸ Finish

Test Player

A software development technician is designing an interface for a new application.

Why should they use simple navigation? (1)

Select **one** option.

- To handle errors
- To use appropriate colours
- To perform threat modelling
- To signpost desired information

ⓘ ? ↵ ▸ ◀ Previous 19 / 23 Next ▶ ⌚ 00:56 Pause Finish

Test Player

Which of these is a common security threat to software? (1)

Select **one** option.

- Architecture review
- Buffer overflow
- Voice recognition
- System load

⊕ ? ↵ 🚩 ◀ Previous 20 / 23 Next ▶ ⌚ 00:55 ⏸ Finish

Test Player

Why is competition among colleagues a positive factor in team dynamics? (1)

Select **one** option.

- It motivates team members
- It reduces insider threats
- It avoids team conflict
- It increases data consistency

⊕ ? 📄 🚩 ◀ Previous 21 / 23 Next ▶ ⌚ 00:55 ⏸ Finish

Test Player

A software development technician must ensure security is built into all new software.

How should they do this? (1)

Select **one** option.

- Perform penetration tests
- Delay event triggers
- Prevent patch releases
- Increase interface visibility

⊕ ? 📄 🚩 ◀ Previous 22 / 23 Next ▶ ⌚ 00:55 ⏸ Pause ⏹ Finish

Test Player

Why should a software development technician connect their code to a specified data source? (1)

Select **one** option.

- To specify programming languages
- To increase scalability
- To reuse algorithms
- To extract data

ⓘ ? ↵ 🚩 ⏪ Previous 23 / 23 Next ⏩ ⌚ 00:54 ⏸ Pause ⏹ Finish