Australian Government

ICTPRG301 Apply introductory programming techniques

Release: 1

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

ICTPRG301 Apply introductory programming techniques

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to create simple applications or games.

It applies to individuals with responsibility for creating applications or games and includes creating code, using programming standards, testing, and debugging.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Programming and software development

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Apply language syntax and layout	1.1 Apply basic language syntax rules
	1.2 Use language data types, operators, and expressions to create a clear and concise code
	1.3 Apply the variables and variable scope
	1.4 Use the library functions in a program
	1.5 Use commenting to create a clear meaning to the code
2. Apply control structures	2.1 Apply the language syntax for sequence, selection and iteration constructs
	2.2 Use logical operators to create expressions for use in selection and iteration constructs
3. Code using standard algorithms	3.1 Develop algorithms that use the sequence, selection and iteration constructs
	3.2 Create and use arrays
	3.3 Code the standard sequential access algorithms, for reading and writing text files, including end-of-file detection loops
	3.4 Apply string manipulation
4. Test the code	4.1 Use debugging techniques to trace code execution and examine the variable contents to detect, and correct, errors
	4.2 Create and conduct simple tests, to confirm that the code meets the design specification
	4.3 Document the tests performed and results achieved
5. Create an application or game	5.1 Design an algorithm in response to basic program specifications
	5.2 Develop the application or game to meet the program specification
	5.3 Test and confirm that the application, or game, meets the initial specifications

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Writing	1.2, 1.5, 4.3	• Prepares workplace documentation, according to organisational formats and protocols • Creates program code using the correct syntax
Numeracy	2.2, 3.1, 5.1	• Uses mathematical formulae to ensure that the program specifications are met
Get the work done	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 5.2, 5.3	• Takes responsibility for planning, sequencing and prioritising tasks and own workload, for efficiency and effective outcomes • Uses problem-solving techniques to analyse the required outcomes, in order to determine the correct program code • Uses a formal decision-making process, identifying and evaluating several choices against a limited set of criteria, when selecting syntax • Evaluates the effectiveness of decisions in terms of how well they meet stated design specifications • Uses the features of digital tools to complete complex tasks

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTPRG301 Apply introductory programming techniques	ICAPRG301A Apply introductory programming techniques	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion volumes available from the IBSA website:
http://www.ibsa.org.au/companion_volumes -
https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e
9d6aff2