Australian Government

ICTPRG302 Apply introductory programming techniques

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to create simple applications through introductory programming techniques.

It applies to those who have responsibility for creating applications and includes applying language syntax, control structures to create 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. Establish application task	1.1 Clarify task with required personnel 1.2 Identify design specifications, programming standards and guidelines according to task requirements
2. Apply language syntax and layout	2.1 Apply basic language syntax rules 2.2 Create code using language data types, operators and expressions 2.3 Apply variables and variable scope 2.4 Use program library functions 2.5 Clarify meaning of code using commenting techniques
3. Apply control structures	3.1 Apply language syntax in sequence, selection and iteration constructs

ELEMENT	PERFORMANCE CRITERIA
	3.2 Create expressions in selection and iteration constructs using logical operators
4. Code using standard programming algorithms	4.1 Develop algorithms using sequence, selection and iteration constructs
	4.2 Create and use data structures
	4.3 Code standard sequential access algorithms used in reading and writing text files
	4.4 Apply string manipulation
5. Test code	5.1 Examine variable contents and use debugging techniques to detect and correct errors
	5.2 Create and conduct simple tests and confirm code meets design specification
	5.3 Document actions carried out and results of tests performed
6. Create a simple application and seek feedback	6.1 Design an algorithm in response to basic program specifications
	6.2 Develop application to meet program specification
	6.3 Confirm application meets initial specifications
	6.4 Present application to required personnel
	6.5 Obtain feedback and sign off from required personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Oral Communication	• Uses listening and questioning techniques to confirm requirements and articulate complex concepts
Numeracy	• Confirms program specifications are met using mathematical formulae
Writing	• Writes and edits code and technical data in a logical manner using required syntax • Develops documentation outlining changes and tests performed using appropriate structure, layout and technical programming language
Planning and organising	• Takes responsibility for planning, sequencing and prioritising tasks and own workload

SKILL	DESCRIPTION
Problem solving	• Analyses required outcomes and determines program code using problem-solving techniques • Uses a formal decision-making process, identifying and evaluating several choices against a limited set of criteria when selecting syntax • Evaluates decisions in terms of how well they meet stated design specifications
Technology	• Completes complex tasks using features of digital tools

Unit Mapping Information

Supersedes and is equivalent to ICTPRG301 Apply introductory programming techniques.

Links

Companion Volume Implementation Guide is found on VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2