# Assessment event 2: Skills

## Criteria

### Unit code and name

ICTICT449 - Use version control systems in development environments

ICTPRG430 - Apply introductory object-oriented language skills

ICTPRG441 - Apply skills in object-oriented design

### Qualification/Course code and name

ICT40120 | Certificate IV in Information Technology

## Student details

Student name

Student number

Version: 20230829

Date created: 29 August 2023

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Assessment event overview** | The aim of this assessment event is to assess your knowledge and performance in  This assessment is in 5 parts:   * Part 1:   And is supported by:   * Assessment feedback   **Note**: This assessment may contain links to external resources. Access to the long URL is provided via the External resources – Links and URLs section located at the end of this document. |
| **Unit assessment guide** | Refer to the unit assessment guide (UAG) before attempting this assessment event. The UAG contains information including assessment requirements and how to achieve a satisfactory result. |
| **Submission instructions** | When you complete this assessment, submit it for marking:   * keep a copy of all the electronic and hardcopy assessments you submit to TAFE NSW * make sure you have completed the assessment declaration before you submit. |

**Part 1 Plan**

You have been tasked with creating a marble race game. There must be multiple marbles that go down a complex track to reach the end. The first marble to reach the goal is the winner.

There should be power ups and obstacles on the way down that adds some randomisation and varies who will win.

You must use a modular approach using object-oriented design and polymorphism to create your game.

In your game’s code, you must do the following:

1. Implement polymorphism once for code extensibility.
2. Select and use at least:
   1. three language data types
   2. three operators
   3. three expressions
3. Implement at least two classes that each contain at least four instance variables.
4. Use correct language syntax for at least:
   1. one selection (if, switch)
   2. two iterations (loops)

**Part 2 TDD**

You will plan and determine what your design specifications to satisfy the requirements. Create a Technical Design Document (TDD) using the Template provided. The TDD design will clarify user requirements with user on submission.

**Part 3 Create Marble Game**

Create the marble game.

Don’t forget to develop your game according to your planned design and following C# coding conventions.

## Part 4 Submit

Submit your assessment on Moodle, you will require a link to your git, and if there is any, documentation as a PDF.

You will receive any feedback on Moodle, respond to feedback, and resubmit the assignment with any changes.

This page is not required for online assessment submissions.

### Student assessment declaration

This assessment is my original work and has not been:

* copied from any source without proper referencing
* written for me by any other person except where such collaboration has been approved by a teacher or assessor.

Student signature and date

### Reasonable adjustment

Reasonable adjustment was in place for this assessment event.

If so, please provide details of any reasonable adjustment strategies that were implemented:

[Insert reasonable adjustment strategies]

### Assessment outcome

Satisfactory  Unsatisfactory

Comments

[Insert comments]

Assessor name, signature and date

Student acknowledgement of assessment outcome

[Would you like to make any comments about this assessment?]

Student name, signature and date