

▼ Details

# Project - Workbook (T1)

## Overview

<div><div>T1A1</div><div>Help Me</div><div>ID</div></div>	<div>Workbook (T1)</div> <div>T1A1</div>
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# T1A1 - Workbook

- /103.5 Points

Calculated by: Most Recent

28/03/2021

Unlimited Attempts

**Available**

<b>Course</b>	Diploma of Information Technology - Bootcamp Delivery Mode (Fast Track)
<b>Subject</b>	CMP1041 - Foundation Programming INT1012 - Introduction to Web PRG1002 - Programming I
<b>Weighting</b>	29% of CMP1041 20% of INT1012 55% of PRG1002
<b>Marks</b>	Total = <b>103.5</b> marks - 36 marks for CMP1041 - 18 marks for INT1012 - 49.5 marks for PRG1002
<b>Assessment Policies</b>	<p>Coder Academy utilises the Academy of Information Technology's <b>policies</b> (<a href="https://drive.google.com/drive/u/0/folders/0B7WtFCI0RKBCd3ZVNkFjMm5pOFU_">https://drive.google.com/drive/u/0/folders/0B7WtFCI0RKBCd3ZVNkFjMm5pOFU_</a>) relating to assessment, academic matters and student welfare.</p> <p>If you have any questions about these policies, please speak to your educator, or Coder Academy's student services team.</p> <p>A penalty of 10% of the total mark per day may apply for late submissions, inclusive of weekends.</p>

# Introduction

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As a developer (*dev*) you are sometimes required to prove your knowledge to prospective clients and employers.

## Brief

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In order to demonstrate your understanding of fundamental programming concepts and the web, you are required to provide answers to a series of short answer questions.

## Requirements

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Requirements for this project are as follows,

1. Documentation

## Documentation Requirements

Documentation for this project must be supplied as part of the following document(s),

1. **README** document

## README document

Project documentation is to be compiled as a single markdown file named `README.md`. This file should contain,

No.	Requirement
R1	Answers to all the <b>Questions</b> below.
R2	Your <code>README.md</code> should have headings for each question and answers organised under the appropriate headings.

No.	Requirement
R3	Provide full attribution to referenced sources (where applicable).

## Questions

No.	Question	Word Count
Q1	<b>Research</b> the development of the internet from 1980 to today. You must <b>describe</b> at least FIVE key events in the development of the internet. You can refer to events, people of significance, or technologies and how they have changed over time.	300 - 500
Q2	<b>Define</b> the features of the following technologies that are essential in terms of the development of the internet: <ul style="list-style-type: none"><li>- packets</li><li>- IP addresses (IPv4 and IPv6)</li><li>- routers and routing</li><li>- domains and DNS</li></ul> <b>Explain</b> how each technology has contributed to the development of the internet.	50 - 100 words per dot point

No.	Question	Word Count
Q3	<p><b>Define</b> the features of the following technologies that are essential in terms of the development of the internet:</p> <ul style="list-style-type: none"> <li>- TCP</li> <li>- HTTP and HTTPS</li> <li>- web browsers (requests, rendering and developer tools)</li> </ul> <p><b>Explain</b> how each technology has contributed to the development of client and server communication over the internet (<i>50 - 150 words for each technology</i>)</p>	150 - 300 words per dot point
Q4	<p><b>Identify</b> THREE data structures used in the Ruby programming language and <b>explain</b> the reasons for using each.</p>	50 - 100 words on each data structure
Q5	<p><b>Describe</b> the features of <i>interpreters</i> and <i>compilers</i> and how they are different.</p>	100 - 200 words on each way code is executed
Q6	<p><b>Identify</b> TWO commonly used programming languages and <b>explain</b> the benefits and drawbacks of each.</p>	200 - 400 words on each language

No.	Question	Word Count
Q7	<p><b>Identify</b> TWO ethical issues from the areas below and <b>discuss</b> the extent to which an IT professional is ethically responsible in terms of the issue.</p> <p>List of topics containing ethical issues:</p> <ul style="list-style-type: none"> <li>- access to a user's personal information (medical, family, financial, personal attributes such as sexuality, religion, or beliefs)</li> <li>- intellectual property, copyright, and acknowledgement.</li> <li>- criminal acts such as theft, fraud, trafficking and distribution of prohibited substances, terrorism</li> <li>- GPS tracking data and other types of metadata, MAC addresses, hardware fingerprints</li> <li>- freedom of thought, conscience, speech and the media</li> <li>- aggressive sales and marketing practices designed to mislead and deceive consumers</li> <li>- trading of shares on the stock exchange OR crypto-currencies</li> </ul> <p>For each ethical issue identify a source of legal information relating to the ethical issue and discuss whether the law is helpful in assisting a developer to act in an ethical way. (<i>Word count guide: 200 words max</i>)</p> <p>Conduct <b>research</b> into a case study of <b>ONE</b> of the ethical issues you have chosen <b>discuss</b> how an ethical IT professional should respond to the case study and how they might mitigate or prevent ethical breaches. (<i>Word count guide: 400 - 600 words</i>)</p>	200 - 400 words for each ethical issue
Q8	Explain control flow, using an example from the Ruby programming language	100
Q9	Explain type coercion	100
Q10	Explain data types, using examples	100

No.	Question	Word Count
Q11	<p>Here's the problem: "There is a restaurant serving a variety of food. The customers want to be able to buy food of their choice. All the staff just quit, how can you build an app to replace them?"</p> <ul style="list-style-type: none"> <li>- Identify the classes you would use to solve the problem</li> <li>- Write a short explanation of why you would use the classes you have identified</li> </ul>	N/A
Q12	Identify and explain the error in the code snippet below that is preventing correct execution of the program	100
Q13	The code snippet below looks for the first two elements that are out of order and swaps them; however, it is not producing the correct results. Rewrite the code so that it works correctly.	N/A
Q14	<p>Demonstrate your algorithmic thinking through completing the following two tasks, in order:</p> <ol style="list-style-type: none"> <li>1. Create a flowchart to outline the steps for listing all prime numbers between 1 and 100 (inclusive). Your flowchart should make use of standard conventions for flowcharts to indicate processes, tasks, actions, or operations</li> <li>2. Write pseudocode for the process outlined in your flowchart</li> </ol>	N/A
Q15	<p>Write pseudocode OR Ruby code for the following problem:</p> <p><i>You have access to two variables: raining (boolean) and temperature (integer). If it's raining and the temperature is less than 15 degrees, print to the screen "It's wet and cold", if it is less than 15 but not raining print "It's not raining but cold". If it's greater than or equal to 15 but not raining print "It's warm but not raining", and otherwise tell them "It's warm and raining".</i></p>	N/A

No.	Question	Word Count
Q16	<p>ACME Corporation are hiring a new junior developer, as part of their hiring criteria they've created a "coding skill score" based on the specific competencies they require for this role; the more important the skill is for ACME corp, the more points it contributes to the "coding skill score" The skills are weighted as follows:</p> <ul style="list-style-type: none"><li>- Python (1)</li><li>- Ruby (2)</li><li>- Bash (4)</li><li>- Git (8)</li><li>- HTML (16)</li><li>- TDD (32)</li><li>- CSS (64)</li><li>- JavaScript (128)</li></ul> <p>Write a program that allows a user to input their skills and then tells them</p> <ol style="list-style-type: none"><li>a) Their overall "coding skill score"</li><li>b) Skills they may want to learn, and how much each one would improve their score</li></ol>	N/A

## Q12 Code snippet





```
1 celsius = gets
2 fahrenheit = (celsius * 9 / 5) + 32
3 print "The result is: "
4 print fahrenheit
5 puts "."
```

## Q13 Code snippet

```
1 arr = [5, 22, 29, 39, 19, 51, 78, 96, 84]
2 i = 0
3 while (i < arr.size - 1 and arr[i] < arr[i + 1])
4     i = i + 1 end
5 puts i
6     arr[i] = arr[i + 1]
7     arr[i + 1] = arr[i]
```

## Submission

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- This project must be submitted via **Canvas**
- Your submission is to be a single PDF file

## File preparation

Follow the steps below to correctly prepare and submit the file,

1. Generate a PDF. If you are converting a markdown document to a PDF, refer to the Ed Lesson “[Converting Markdown to PDF](https://edstem.org/courses/4965/lessons/5788/slides/42024)”  
[\\_ \(https://edstem.org/courses/4965/lessons/5788/slides/42024\)](https://edstem.org/courses/4965/lessons/5788/slides/42024)”
2. Rename the **PDF** file as,

{Fullname}\_T1A1.pdf

3. Rename the **markdown** file as,

{Fullname}\_T1A1.md

4. Submit **both this PDF and your original markdown file** in Canvas. See the [Ed Lesson on Turnitin \(https://edstem.org/courses/4965/lessons/5787/slides/42018\)](https://edstem.org/courses/4965/lessons/5787/slides/42018) to learn more about how your work will be checked for plagiarism, and how you can submit early to identify any issues.

## Example

If your name is **Luke Skywalker**,

1. The file you create will be called **LukeSkywalker\_T1A1.pdf** and **LukeSkywalker\_T1A1.md**
2. Submit **LukeSkywalker\_T1A1.pdf** and **LukeSkywalker\_T1A1.md**
3. in Canvas

## Deadline

You are responsible for submitting this assessment before the deadline date/time. Your assessment **submission-time** is set and logged by Canvas once your entire submission is uploaded and submitted in the system. This **submission-time** is used to verify on-time submission or determine if you are liable for any late submission penalties.

Slow internet speeds, long submission/upload times, delay in uploading, etc are NOT grounds for special consideration (i.e. for waiving of any applicable late penalty).

Remember for any valid special consideration request, relevant and full support documentation MUST be provided. The outcome of the special consideration request will be determined by Academic management and not your Educators.

## Learning Outcomes and Criteria

Subject	Learning Outcome	Criterias		
CMP1041 - Foundation Programming	CMP1041-5	CMP1041-5.1	CMP1041-5.2	CMP1041-5.3
	CMP1041-7	CMP1041-7.1	CMP1041-7.2	CMP1041-7.3
INT1012 - Introduction to Web	INT1012-2	INT1012-2.1	INT1012-2.2	INT1012-2.3
PRG1002 - Programming I	PRG1002-1	PRG1002-1.1	PRG1002-1.2	PRG1002-1.3
	PRG1002-2	PRG1002-2.1	PRG1002-2.2	PRG1002-2.3
	PRG1002-4	PRG1002-4.1	PRG1002-4.2	PRG1002-4.3

Refer to the Term Academic overview for further details

## Marks

Marks and/or results for this Assessment (as released in Canvas) are only raw marks and may not necessarily reflect final grades on transcripts. Grades are only finalized after review by the Academic Board and applicable processing (moderation, etc).

The \* symbol in the *rubric* below indicates only part of the specified requirement is being assessed in the applicable criteria

Key	Value
Version	2.0
Keywords	FastTrack; ftb; assessment

Attempt 1

Comments

Rubric



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