



Unit:
Analysis, Design and Implementation

Assignment title:
Job Hound

December 2015 – Sample Assignment

Marking Scheme

Markers are advised that, unless a task specifies that an answer be provided in a particular form, then an answer that is correct (factually or in practical terms) **must** be given the available marks. If there is doubt as to the correctness of an answer, the relevant NCC Education materials should be the first authority.

This marking scheme has been prepared as a **guide only** to markers and there will frequently be many alternative responses which will provide a valid answer.

Each candidate's script must be fully annotated with the marker's comments (where applicable) and the marks allocated for each part of the tasks.

Throughout the marking, please credit any valid alternative point.

Where markers award half marks in any part of a task, they should ensure that the total mark recorded for the task is rounded up to a whole mark.

Task	Guide	Maximum Marks
1	<p>Candidate Class List and Diagrams The candidate class list should incorporate justifications and discussion as to why each class was selected for inclusion, and how its relationship to other classes was derived. The class diagram should show attributes, operations, scope and relationship of classes to each other.</p> <p>Candidate Class List There should be at least the following classes: Employer (or other suitable name) (3 marks), Client (or other suitable name) (3 marks), Job (or other suitable name) (3 marks) 1 additional mark is available for suitable aggregation classes.</p> <p>Additional Classes It is entirely possible to complete the application using only the classes indicated above, but an extra five marks should be made available for classes that offer better class structure. For example, creating subclasses of Job to handle efficiencies in searches. Students can also profitably make use of abstract classes to implement functionality. (2 marks for each suitable additional class, up to a maximum of 6 marks. Do not award more than a maximum of 2 marks for use of abstract classes.)</p> <p>Class Diagram The class diagram should include attributes for all classes (3 marks), operations for all classes (3 marks), and implement the correct relationships between classes (3 marks) and their multiplicity (1 mark).</p>	<p>10</p> <p>6</p> <p>10</p> <hr/> <p>26</p>
2	<p>Activity Diagram</p> <p>Functionality The activity diagram should incorporate the classes involved in a user specifying a computer system. Here, neatness of the flow of logic is important. The activity diagram should show the following things (3 marks each):</p> <ul style="list-style-type: none"> • Creation of a new employer • Creation of a new client. • Creation of a new job. • Iteratively matching clients against jobs • Excluding clients and jobs that are not part of active searches • Generating a text output of the matches • Saving the results. <p>Class ownership The activity diagram should properly reflect which classes have the responsibility for each of the elements of functionality, which allows for an additional 4 marks.</p>	<p>21</p> <p>4</p> <hr/> <p>25</p>

Task	Guide	Maximum Marks
3	<p>Use Case Diagram</p> <p>Marks should be awarded as follows:</p> <ul style="list-style-type: none"> • 1 mark for each user activity in the brief (up to a maximum of 6 marks). • 1 mark for showing the associations of the user activities. • 1 mark for valid identified use case. 	8
4	<p>Code Architecture</p> <p>Students should be given marks for handling the command set via inheritance and polymorphism (5 marks), handling user input (5 marks) and handling user output (5 marks)</p>	15
5	<p>System Implementation</p> <p>The following functionality is required of the application:</p> <ul style="list-style-type: none"> • Allows for new clients to be registered. 3 • Allows all existing clients to be listed. 2 • Allows for new employers to be registered 3 • Allows for new jobs to be allocated to employers 3 • Allows for jobs to be marked as 'filled' and removed from active searches. 3 • Allows for clients to be marked as 'no longer seeking' a job. And omitted from future searches. 3 • Calculates the applicability of each job to each client 3 • Outputs a list of all matching jobs and clients. 3 • Saves and loads user data. 3 	26
Total: 100 Marks		

Learning Outcomes matrix

Task	Learning Outcomes assessed	Marker can differentiate between varying levels of achievement
1	1, 2, 5	Yes
2	1, 2, 3, 5	Yes
3	1, 2, 3, 5	Yes
4	2, 4, 6, 7	Yes
5	2, 4, 6, 7	Yes

Grade descriptors

Learning Outcome	Pass	Merit	Distinction
Understand the seamless transition from OO Analysis to OO Design.	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand how to convert OO analysis and design models to code	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Understand the quality attributes associated with an OO development	Demonstrate adequate understanding of quality attributes	Demonstrate robust understanding of quality attributes	Demonstrate highly comprehensive understanding of quality attributes
Understand the concept of maintenance within an OO development environment	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Be able to produce OO analysis and design models using a case tool	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Be able to convert OO analysis and design models to code using an appropriate IDE	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard
Be able to refactor an OO programme to improve quality	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard