



A Database for Storing and Retrieving Classified and Benchmarked Exam Questions for ICT Courses

James Harland

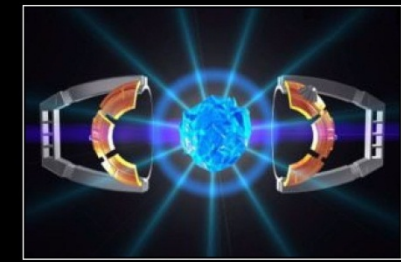
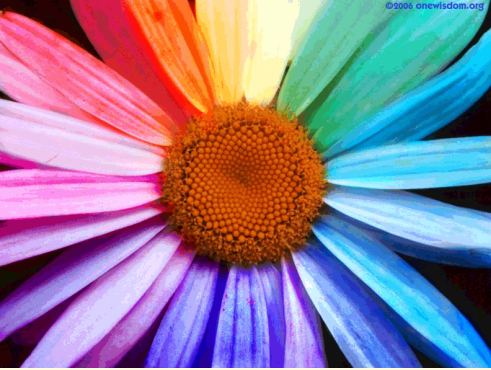
james.harland@rmit.edu.au

Joint work with Margaret Hamilton,
Daryl D'Souza, Raymond Lister (UTS),
Ali Reza (UTS), Donna Teague (QUT)

Repository of Wisdom

ALTA Forum

May 9th, 2014



WISDOM
It will light your darkest hour

A Database for Storing and Retrieving Classified and Benchmarked Exam **Repository of Wisdom** Questions for ICT Courses



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But First ...



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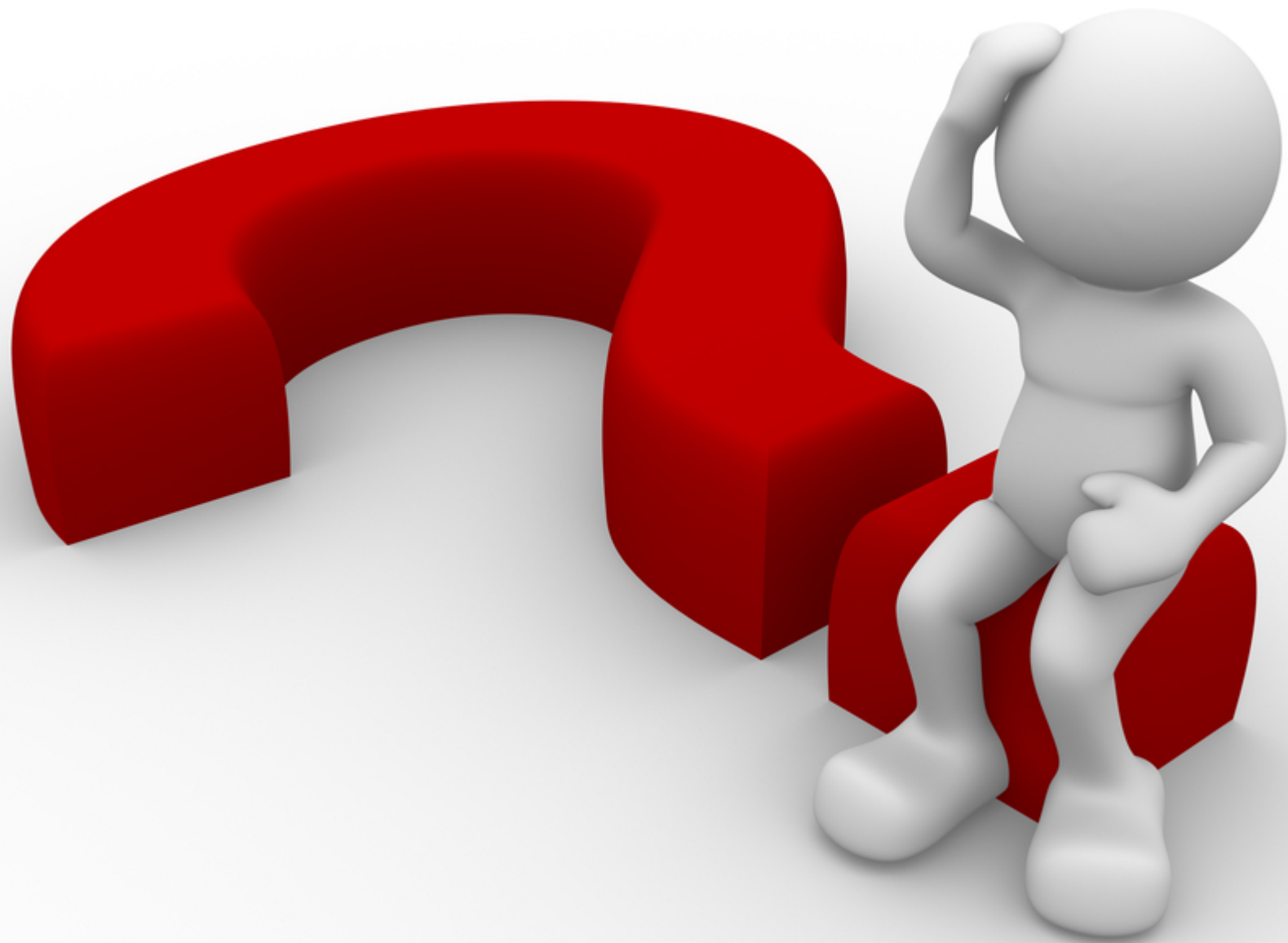
May 9th, 2014

What?



- Database of exam questions for introductory programming
- Hosted on NECTAR Research Cloud (!!)
- Classification based on BABELnot project framework for questions
- Syllabus specification based on ProGoSs
- Developing front-end with comments and ratings features
- Ready by 30th June





Question Attributes



Topic	Up to three from a given list
Style	multiple choice, short answer, program code, Parsons problem, graphical representation
Skill Required	knowledge recall, trace code, explain code, write code, modify code, debug code, design program, test program
Open/closed	Closed if exactly one answer. Open otherwise
Intellectual	knowledge, comprehension, application, analysis, evaluation, synthesis (Bloom levels)
Conceptual	Low, medium, high (depending on rules about concepts)
Code Length	Low, medium, high
External	Low, medium, high
Linguistic	Low, medium, high
Explicitness	High, medium, low
Difficulty	Low, medium, high



Question Attributes



- Question itself is in PDF or similar
- Answers and Marking Guide (optional)
- Performance data (optional)
 - Often anonymised
 - Variable level of detail
 - Can have several per question
- Comments and ratings (1-5 stars)



Front page

115.146.93.78/index.php

RoW

Home

Search Questions

Upload Question

Current Subset

Saved Subsets

Signed in as [James](#)

Sign Out

Repository of Wisdom

Welcome to the Database of Programming Exam Questions!

[View Repository](#)

Look at all existing questions in repository.

[My Questions](#)

Look up questions that I have stored.

[Search Questions](#)

Search for particular questions in the repository.

[Create Subset](#)

Create your own subset of questions where you can save it for later purpose. It can also be downloaded as a zip file.

[Saved Subsets](#)

Find existing subsets that you created and saved.

[Upload Question](#)

Upload your own question and classify it. Additional files, such as answer, marking guide, and student performance data, can also be included.

[Feedback](#)

Give some feedback and comments on this site.

Question Details

Add to Subset

Download All Files

Edit Question

Hide Question

Question ID: 9

Uploaded By: James Harland

Question: [Download \(qid100002_q2.pdf\)](#)

Answer: No file chosen

Marking Guide: No file chosen

Student Performance: No file chosen

Course Name: Course 2

Course Level: Level 1

Period of Initial Use: Semester 1, 2005

Language: Java

Percentage Mark: 2 %

Open / Closed: Open

Topics:

- Data types & variables
- GUI design & implementation
- Programming standards

Style of Question: Short answer

Required Skill: Trace code

Explicitness: High

Degree of Difficulty: Low

External Domain Area: -

External Domain References: Low

Conceptual Complexity: Low

Linguistic Complexity: Low

Code Length: Low

Intellectual Complexity: Comprehension

Comments

Leave a comment for the uploader

Repository of Wisdom

[All Questions](#) · [My Questions](#) · [Hidden Questions](#)

Add to subset

Sort by:

<input type="checkbox"/>	Language	Topic	Question Style	Course Level	Percentage Mark	Required Skill	Open / Closed	Difficulty	Explicitness	Linguistic	Conceptual	Intellectual	Code Length
View <input type="checkbox"/>	Java	<ul style="list-style-type: none"> Strings GUI design & implementation Exception handling 	Program code	2	2	Modify code	Open	Medium	High	Low	Medium	Knowledge	Low
View <input type="checkbox"/>	Python	<ul style="list-style-type: none"> Constants Exception handling Lifetime 	Multiple choice	2	2	Trace code	Closed	High	Medium	Medium	High	Synthesis	Low
View <input type="checkbox"/>	Python	<ul style="list-style-type: none"> Strings Exception handling Assignment 	Parsons problem	2	2	Debug code	Closed	High	Medium	Medium	Medium	Application	Medium
View <input type="checkbox"/>	Python	<ul style="list-style-type: none"> Constants Exception handling Lifetime 	Multiple choice	3	2	Debug code	Closed	High	High	Medium	Medium	Synthesis	Medium
View <input type="checkbox"/>	Java	<ul style="list-style-type: none"> Constants GUI design & implementation Scope 	Graphical representation	2	2	Pure knowledge recall	Closed	High	Medium	Medium	Medium	Synthesis	Medium
View <input type="checkbox"/>	Python	<ul style="list-style-type: none"> Constants Exception handling Lifetime 	Multiple choice	1	2	Debug code	Open	High	Medium	Medium	Medium	Evaluation	Medium

Search questions

Percentage Mark

0



to 100



Open / Closed



Open



Closed

Language

- | | | |
|-------------------------------|--------------------------------------|---------------------------------|
| <input type="checkbox"/> C | <input type="checkbox"/> Java | <input type="checkbox"/> Python |
| <input type="checkbox"/> C++ | <input type="checkbox"/> JavaScript | <input type="checkbox"/> Ruby |
| <input type="checkbox"/> C# | <input type="checkbox"/> Objective-C | <input type="checkbox"/> SQL |
| <input type="checkbox"/> CSS | <input type="checkbox"/> Perl | <input type="checkbox"/> VB |
| <input type="checkbox"/> HTML | <input type="checkbox"/> PHP | <input type="checkbox"/> Others |

Style of Question

- Multiple choice
- Short answer
- Program code
- Parsons problem
- Graphical representation

Skill Required

- | | |
|--|---|
| <input type="checkbox"/> Pure knowledge recall | <input type="checkbox"/> Modify code |
| <input type="checkbox"/> Trace code | <input type="checkbox"/> Debug code |
| <input type="checkbox"/> Explain code | <input type="checkbox"/> Design program |
| <input type="checkbox"/> Write code | <input type="checkbox"/> Test program |

Topic

- | | | | | | |
|---|--|---|---|--|---|
| <input type="checkbox"/> Data types & variables | <input type="checkbox"/> GUI design & implementation | <input type="checkbox"/> Testing | <input type="checkbox"/> Class libraries | <input type="checkbox"/> Logical operators | <input type="checkbox"/> Collections |
| <input type="checkbox"/> Constants | <input type="checkbox"/> Exception handling | <input type="checkbox"/> Scope | <input type="checkbox"/> OO concepts | <input type="checkbox"/> Selection | <input type="checkbox"/> Methods |
| <input type="checkbox"/> Strings | <input type="checkbox"/> Program design | <input type="checkbox"/> Lifetime | <input type="checkbox"/> Assignment | <input type="checkbox"/> Loops | <input type="checkbox"/> Parameter passing |
| <input type="checkbox"/> I/O | <input type="checkbox"/> Programming standards | <input type="checkbox"/> Events | <input type="checkbox"/> Arithmetic operators | <input type="checkbox"/> Recursion | <input type="checkbox"/> Operator overloading |
| <input type="checkbox"/> File I/O | <input type="checkbox"/> Algorithm complexity | <input type="checkbox"/> Notional machine | <input type="checkbox"/> Relational operators | <input type="checkbox"/> Arrays | <input type="checkbox"/> Others |

Course Level

- Level 1
- Level 2
- Level 3

Degree of Difficulty

- Low
- Medium
- High

Explicitness

- Low
- Medium
- High

Linguistic Complexity

- Low
- Medium
- High

Conceptual Complexity

- Low
- Medium
- High

Intellectual Complexity

Code Length

External Domain References

Upload new question

* indicates required information

Question File*

No file chosen

Answer File

No file chosen

Marking Guide

No file chosen

**Student Performance
Data**

No file chosen

Course Name*

Please enter the course name

Course Level*

Choose one...

Period of Initial Use*

Select semester...



Select year...



Percentage Mark*

Please input a number between 0 - 100



%

Language*

Choose one...



Topic*

- | | | | | | |
|---|--|---|---|--|---|
| <input type="checkbox"/> Data types & variables | <input type="checkbox"/> GUI design & implementation | <input type="checkbox"/> Testing | <input type="checkbox"/> Class libraries | <input type="checkbox"/> Logical operators | <input type="checkbox"/> Collections |
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