TRANSFORMINGEXAMS.COM

A Scalable Examination Platform for BYOD Invigilated Assessment

Moodle Quiz:

Towards post-paper

Mathew Hillier, Transforming Exams

Updated April 2020

Australian Government
Department of Education and Training

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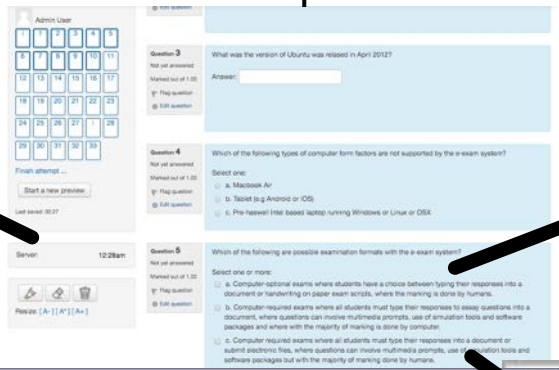
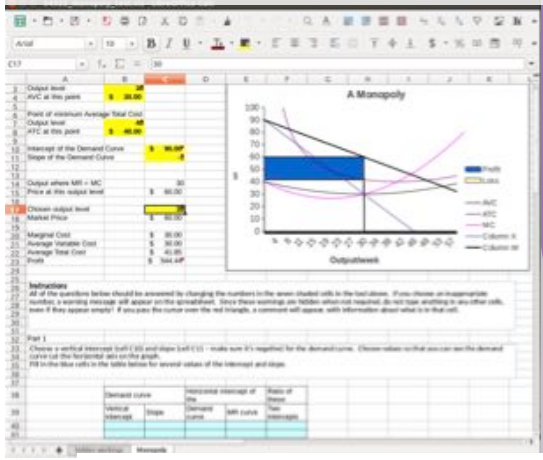
Towards ‘post-paper’ e-Exams using Moodle Quiz

Start simple and build up!

Start! Moodle quiz



Video

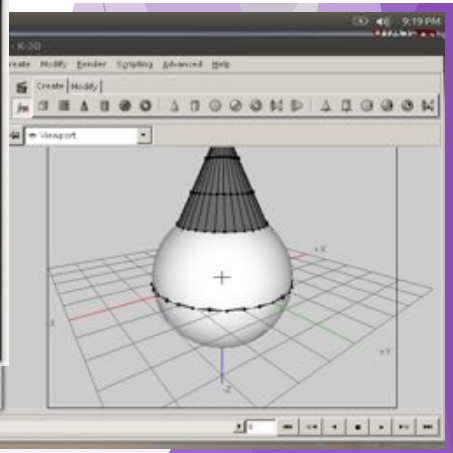


Spreadsheets for calculation and analysis.

Scratch SDK

PDF

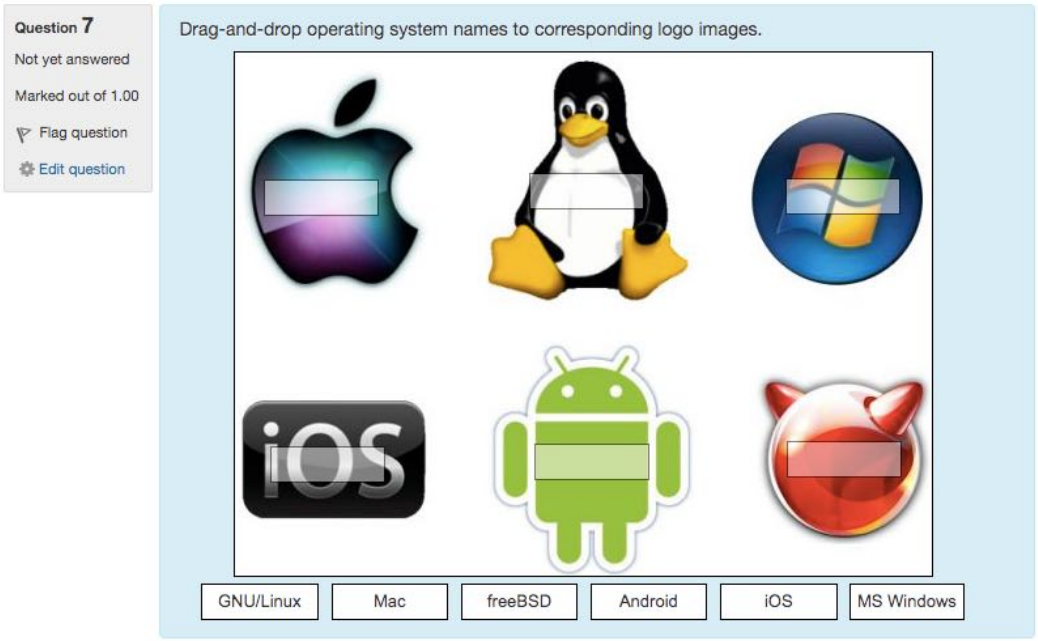
Specialist applications

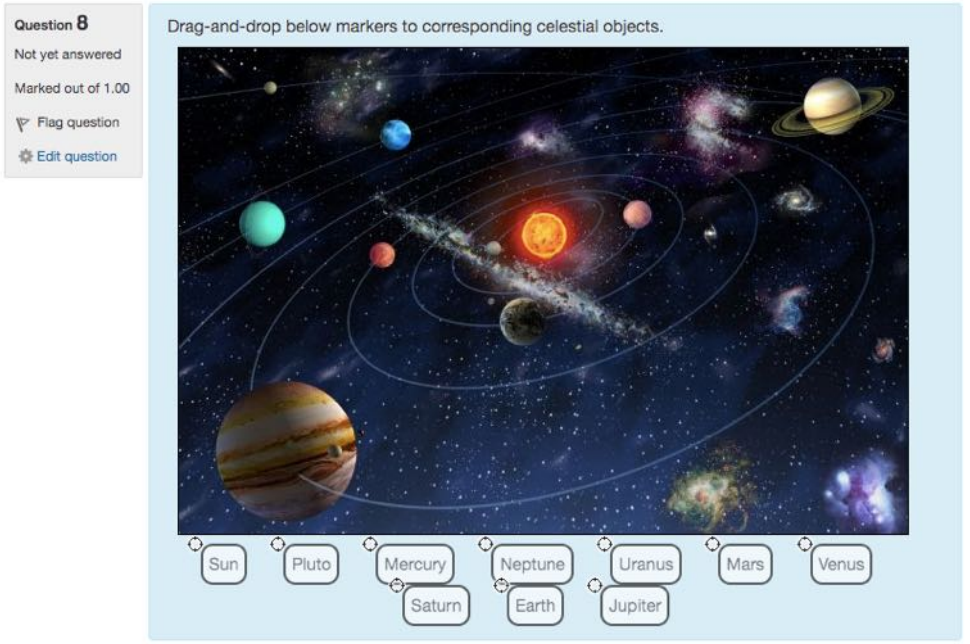


Sims

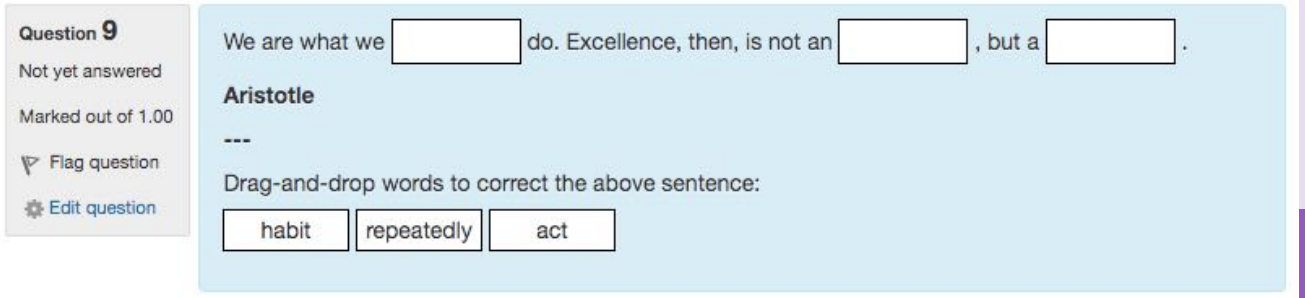
Drag and drop questions.

Labels or markers onto an image:



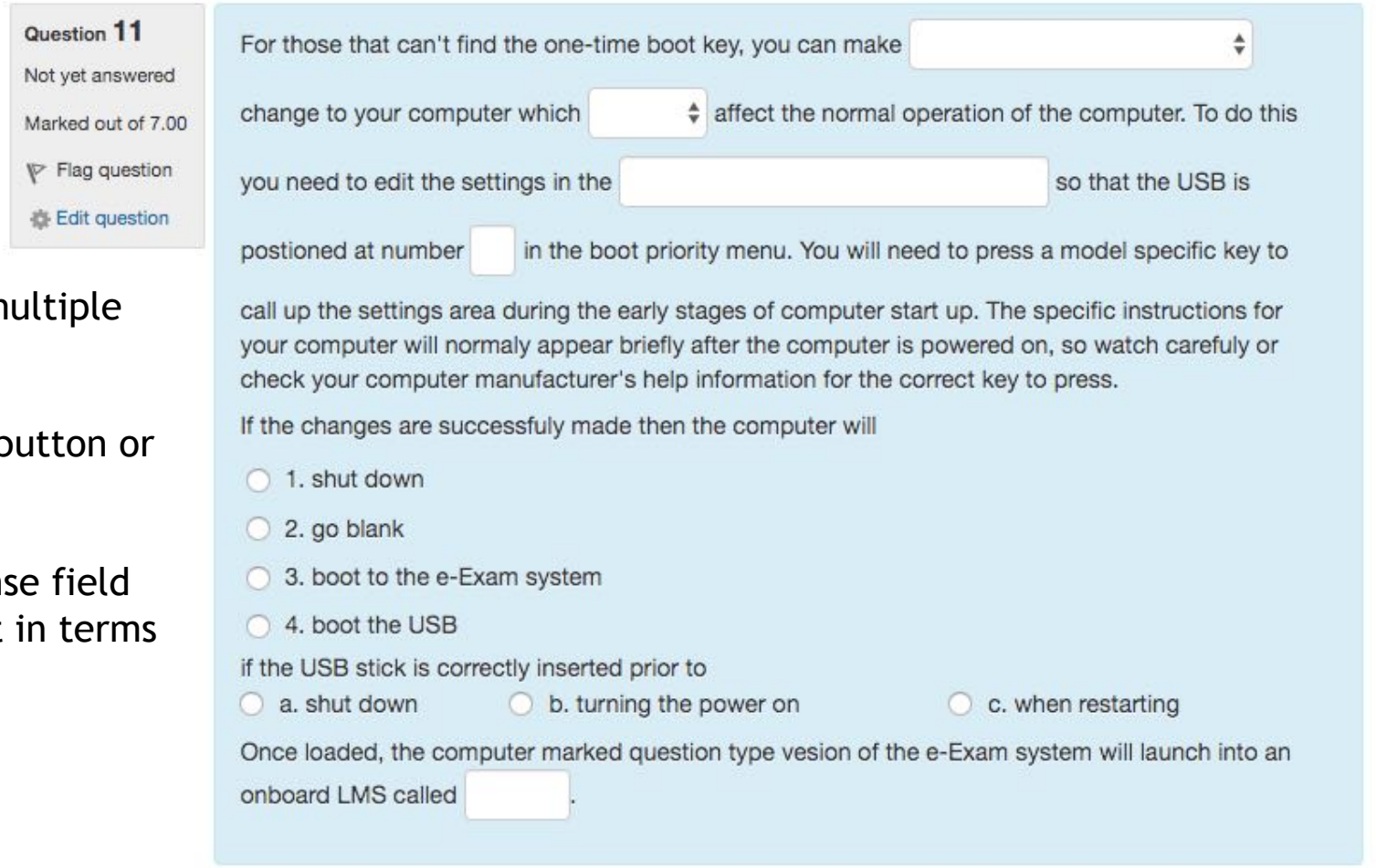


Labels onto text:



Multi-part or Cloze questions

Multi-part question is possible.



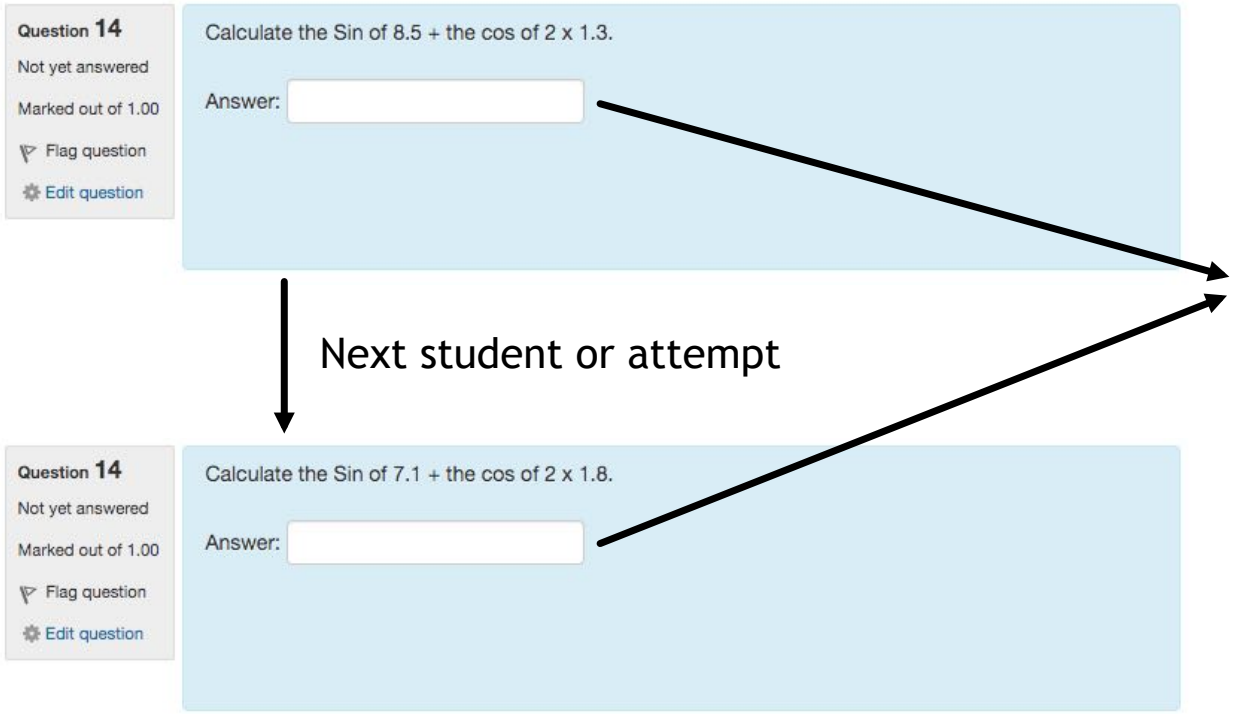
Free-text or numeric with multiple possible answers.

Selected response by radio button or drop-down list.

Each sub-question or response field can carry a different weight in terms of the question mark.

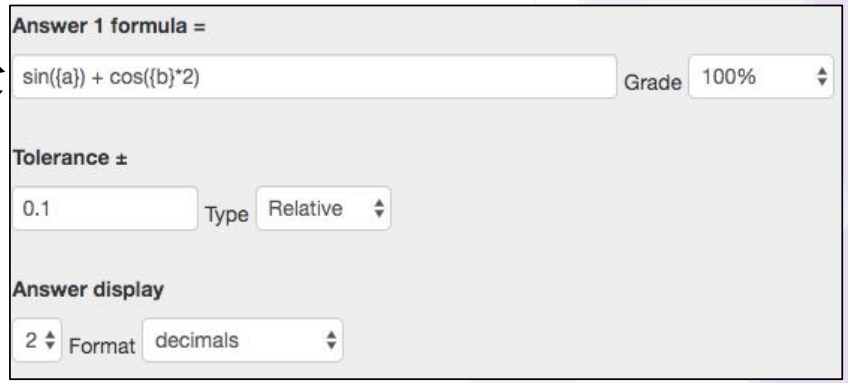
Calculated with random vairables

Each student and attempt results the display of different variables in the question.



Same formula used to calculate each answer based on variables a and b within defined ranges.

$$\sin(\{a\}) + \cos(\{b\}*2)$$



Media in question stem

Image, video, audio.

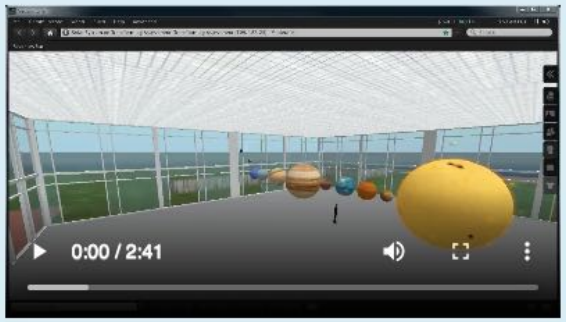
Question 15
Not yet answered
Marked out of 1.00
Flag question
Edit question

How many USB ports are on this side of the laptop?

Answer:

Question 18
Not yet answered
Marked out of 1.00
Flag question
Edit question

Can you play the video and hear the sound?



Select one:
- a. I can play the video and hear the sound.
- b. I get nothing
- c. I can play it, but can not hear any sound.

Question 17
Not yet answered
Marked out of 1.00
Flag question
Edit question

Listen to the audio and choose the appropriate response - what did you hear?

0:00 / 0:24

Select one:
- a. The sound of a bird.
- b. The audio didnt work for me.
- c. The sound of an elephant.

Get students to use earphones!

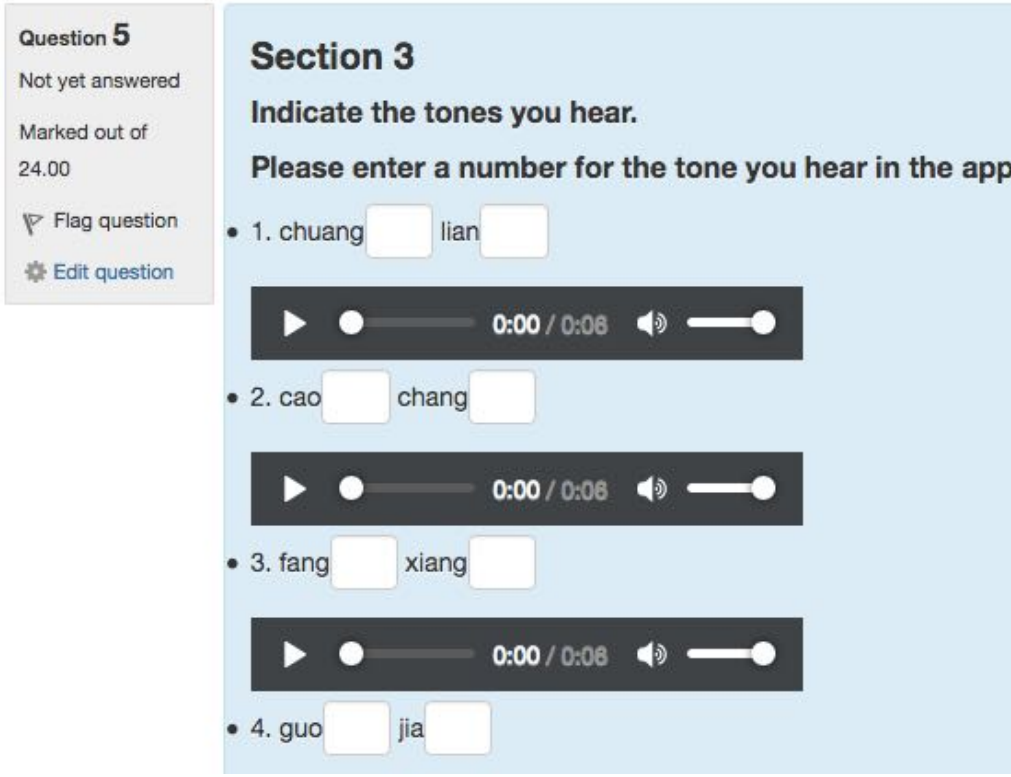
Audio prompt

Monash University 2018.
Chinese language – two units (1st year and 3rd Year).
Listening test.

Moodle quiz cloze question with embedded audio.

Students used headsets to listen.

Responses via cloze fields.



External software with quiz

Constructed response – Scratch

Student response file uploaded.

Question 27

Not yet answered

Marked out of 1.00

Flag question

Edit question

Scratch will be required for this question.

To open this application, click on the circular icon on the top left of the screen, and then type 'scratch' into the search box that appears.

Using the default Scratch program, make the Cat sprite run in circles and 'meow' when it touches the sides.

When done, save the file to the answers drive using your name as the file name.

1. Provide a one or two sentence summary of the commands you used in your response in the text box below.
2. Then attach your scratch program file to this question.

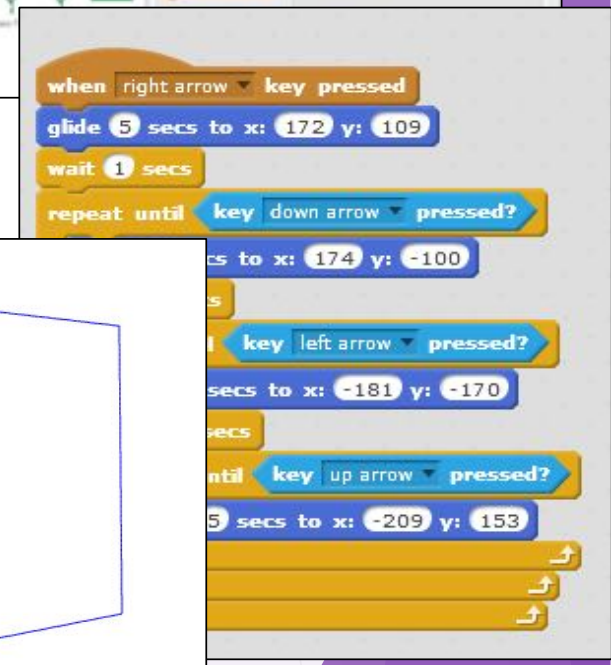
Paragraph

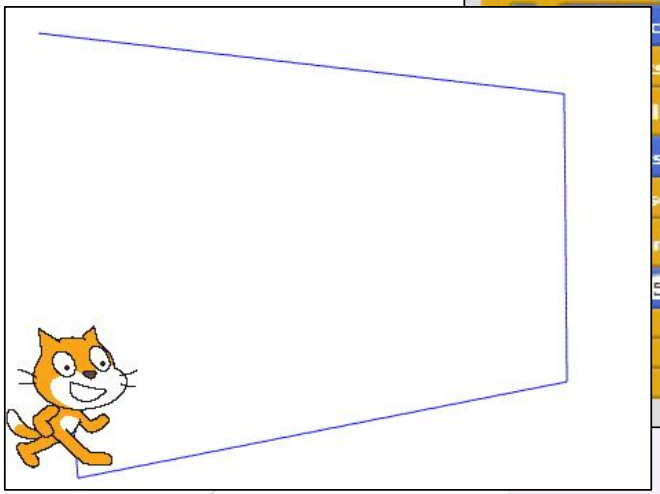
Path: p

Maximum size for new files: Unlimited

Files

You can drag and drop files here to add them.





External software with quiz

Mathematics example. Use third party software to answer questions. In the case of installed applications users will need to have and locate the software.

Question 30

Not yet answered

Marked out of 1.00

Flag question

Edit question

Scilab will be required for the following question.

To open this application, click on the circular icon on the top left of the screen, and then type 'Scilab' into the search box that appears.

Enter the following program into scilab:

```
function f = myquadratic2arg ( x1 , x2 )
f = x1**2 + x2**2;
endfunction
xdata = linspace ( -1 , 1 , 100 );
ydata = linspace ( -1 , 1 , 100 );
contour ( xdata , ydata , myquadratic2arg , 10)
```

How do you interpret the output?

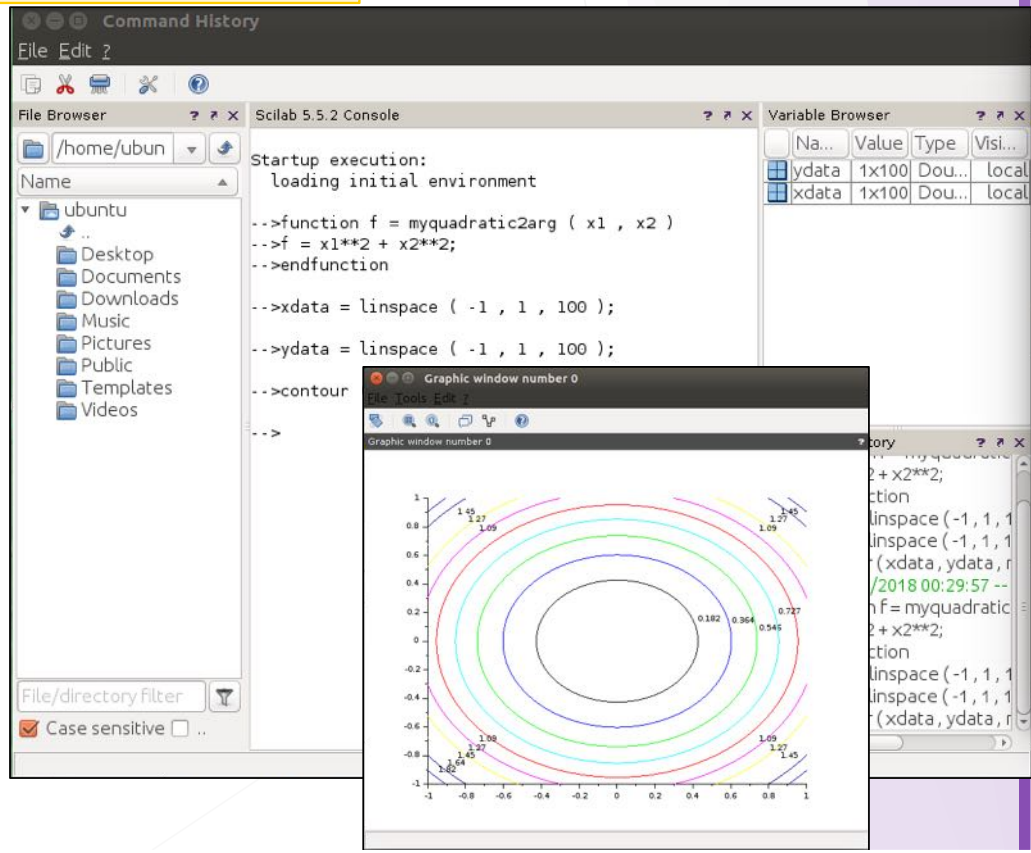
Please put your response inside the box below.

Paragraph

Path: p

Provide instructions to access the software.

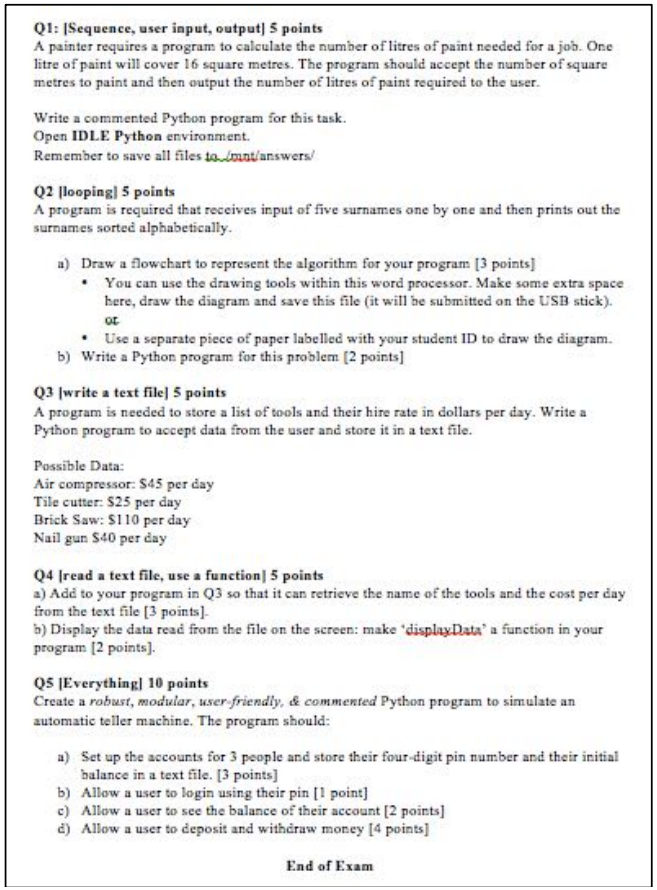
Provide space for responses – these can potentially be copy-pasted from the software.



Programming e-Exam

Edith Cowan University. Teaching Python Programming exam.

Word document + Python IDLE



Q1: [Sequence, user input, output] 5 points
A painter requires a program to calculate the number of litres of paint needed for a job. One litre of paint will cover 16 square metres. The program should accept the number of square metres to paint and then output the number of litres of paint required to the user.

Write a commented Python program for this task.
Open **IDLE Python** environment.
Remember to save all files to /mnt/answers/

Q2 [looping] 5 points
A program is required that receives input of five surnames one by one and then prints out the surnames sorted alphabetically.

a) Draw a flowchart to represent the algorithm for your program [3 points]
- You can use the drawing tools within this word processor. Make some extra space here, draw the diagram and save this file (it will be submitted on the USB stick).
or
- Use a separate piece of paper labelled with your student ID to draw the diagram.

b) Write a Python program for this problem [2 points]

Q3 [write a text file] 5 points
A program is needed to store a list of tools and their hire rate in dollars per day. Write a Python program to accept data from the user and store it in a text file.

Possible Data:
Air compressor: $45 per day
Tile cutter: $25 per day
Brick Saw: $110 per day
Nail gun $40 per day

Q4 [read a text file, use a function] 5 points
a) Add to your program in Q3 so that it can retrieve the name of the tools and the cost per day from the text file [3 points].
b) Display the data read from the file on the screen: make 'displayData' a function in your program [2 points].

Q5 [Everything] 10 points
Create a *robust, modular, user-friendly, & commented* Python program to simulate an automatic teller machine. The program should:

a) Set up the accounts for 3 people and store their four-digit pin number and their initial balance in a text file. [3 points]
b) Allow a user to login using their pin [1 point]
c) Allow a user to see the balance of their account [2 points]
d) Allow a user to deposit and withdraw money [4 points]

End of Exam

```
##···//Assessment·1.2:·In·Class·Test¬
##·····Question·#3·&·4¬
##·····Author:·#########¬
¬
##··//Create·text·file·to·store·tools·and·hire·rate¬
¬
def·displayData():¬
····print·(a.read())¬
¬
a·=·open("tools_sheet.txt",·"w")¬
¬
##··//Receive·user·input·of·tools·and·hire·rate¬
tool1·=·input("Please·enter·the·first·tool·tool·needed:·")¬
price1·=·input("Please·enter·the·hire·rate:·")¬
print·(tool1,·":·",·price1,·file=a)¬
¬
tool2·=·input("Please·enter·the·second·tool·tool·needed:·")¬
price2·=·input("Please·enter·the·hire·rate:·")¬
print·(tool2,·":·",·price2,·file=a)¬
¬
tool3·=·input("Please·enter·the·third·tool·tool·needed:·")¬
price3·=·input("Please·enter·the·hire·rate:·")¬
print·(tool3,·":·",·price3,·file=a)¬
¬
tool4·=·input("Please·enter·the·fourth·tool·tool·needed:·")¬
price4·=·input("Please·enter·the·hire·rate:·")¬
print·(tool4,·":·",·price4,·file=a)¬
¬
a.close()¬
¬
¬
##··//Start·of·Question·#4¬
¬
##··//Retrieve·data·from·Question·#3¬
a·=·open("tools_sheet.txt",·"r")¬
print("diplaying·contents·of·text·file")¬
displayData()¬
a.close()¬
¬
##··//Display·data·from·text·file·(in·IDLE·Shell·enter·'displayData()'¬
¬
```

CSS and script tricks

Eliminate options.

Question 23

Answer changed

Marked out of 1.00

Flag question

Edit question

Chose the best option from below

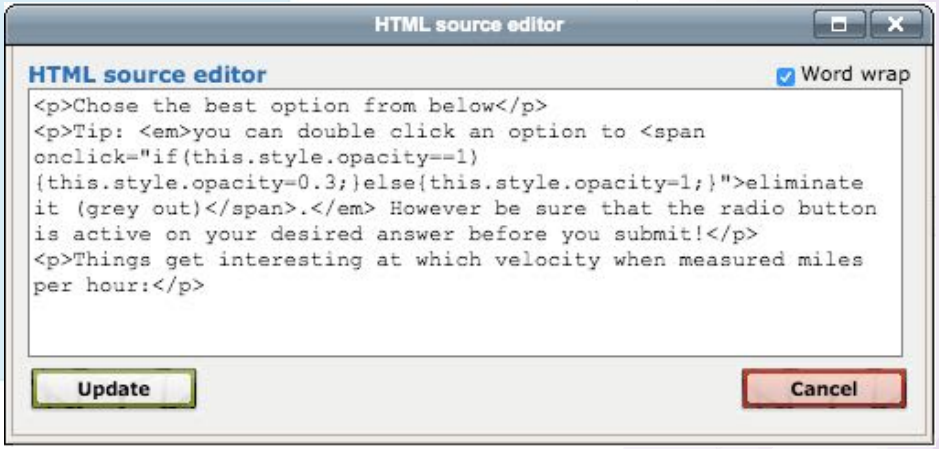
Tip: *you can double click an option to eliminate it (grey out).* However be sure that the radio button is active on your desired answer before you submit!

Things get interesting at which velocity when measured miles per hour:

Select one:

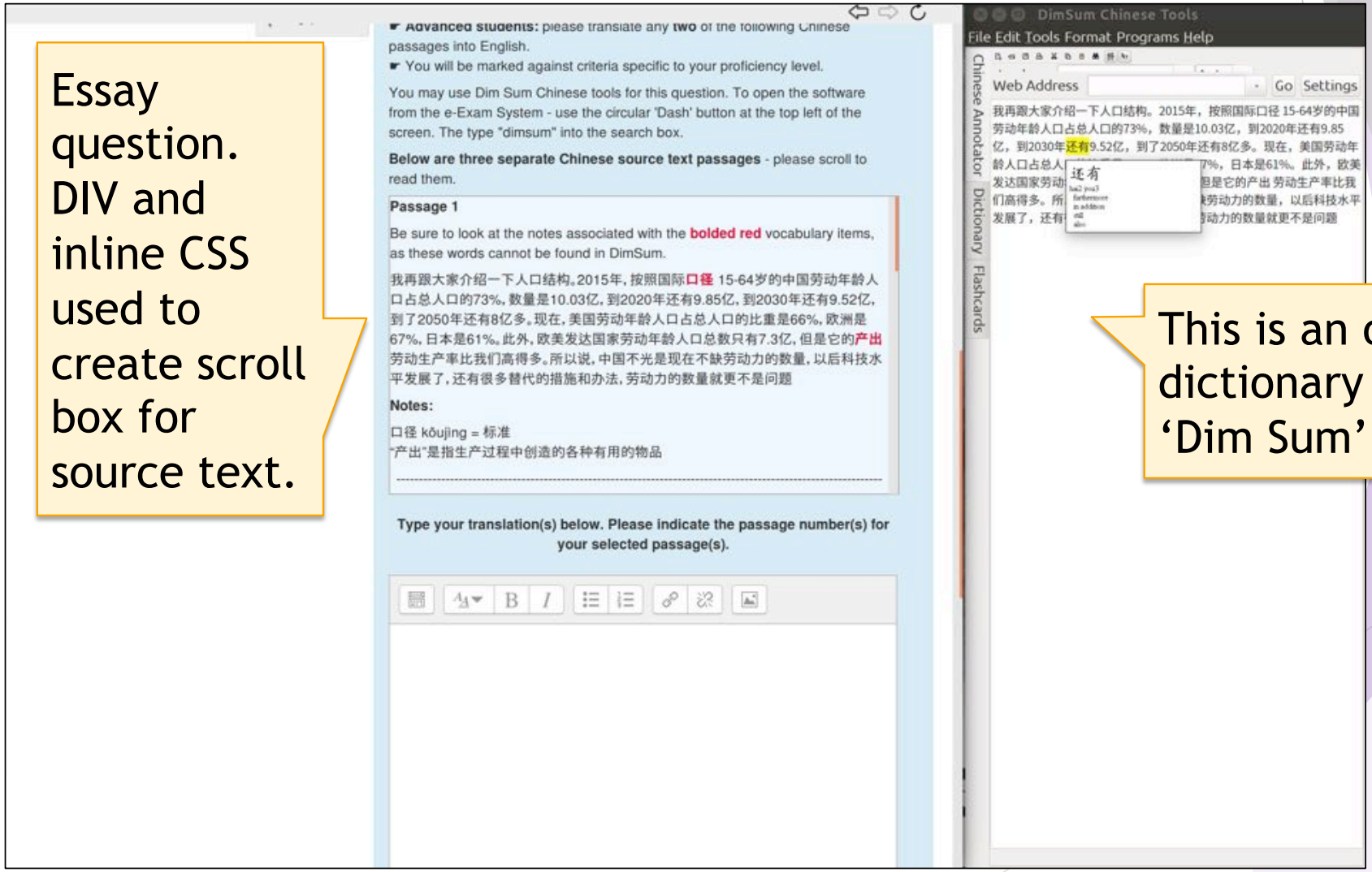
- a. Eighty eight
- b. Seven hundred and sixty seven
- c. Sixty nine
- d. Forty two
- e. Thirteen

Script in the question stem to enable the user to double click to grey out options.



Each distractor also needs the script.

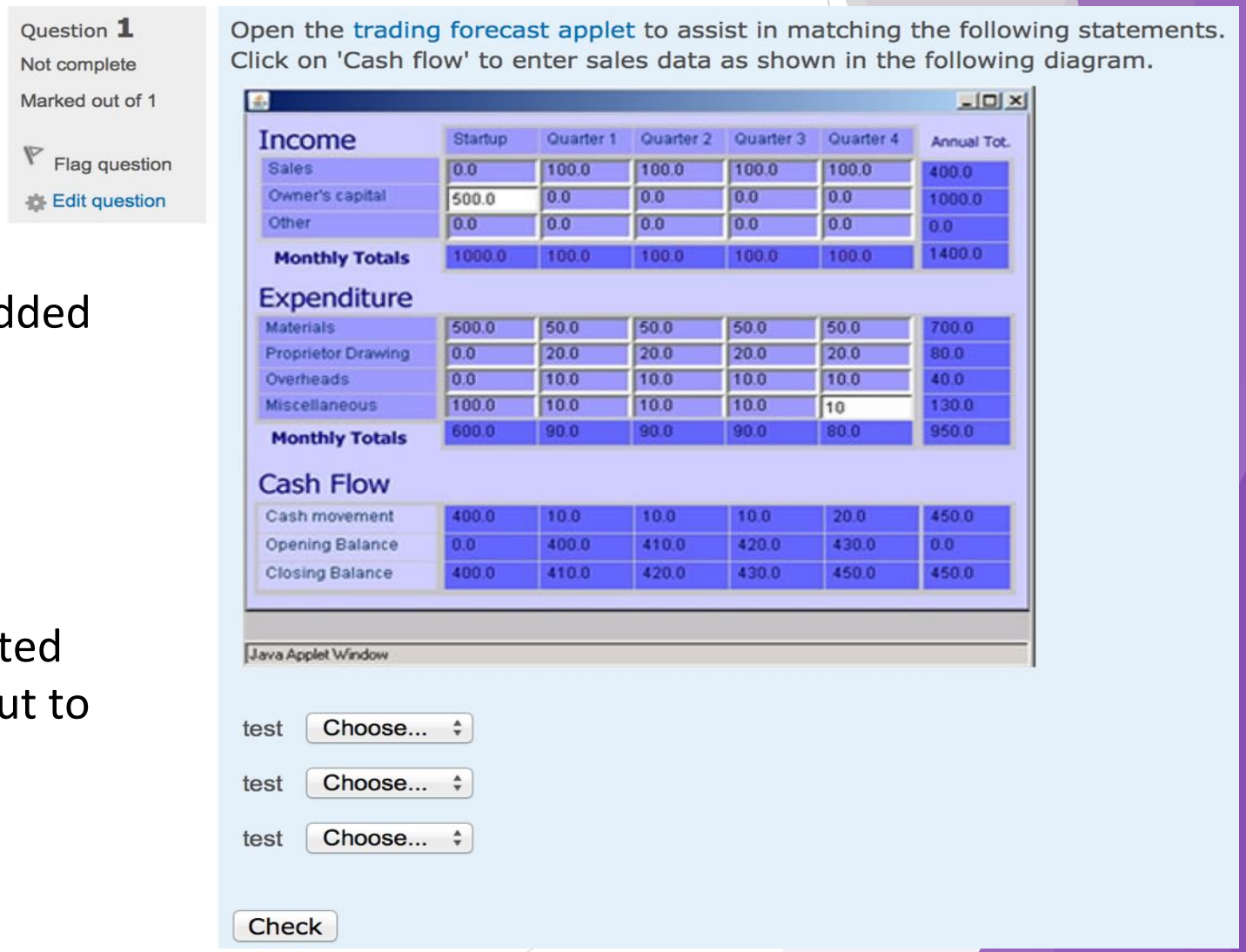
Translation task with offline dictionary



Essay question. DIV and inline CSS used to create scroll box for source text.

This is an offline dictionary tool ‘Dim Sum’.

Linked interactive apps



1. Student clicks a link embedded in the quiz to launch a separate app.
2. Undertakes a task as instructed.
3. Then responds using selected response or numerical input to suit.

Spreadsheet in quiz

Question **2**

Not complete

Marked out of 1

Flag question

Edit question

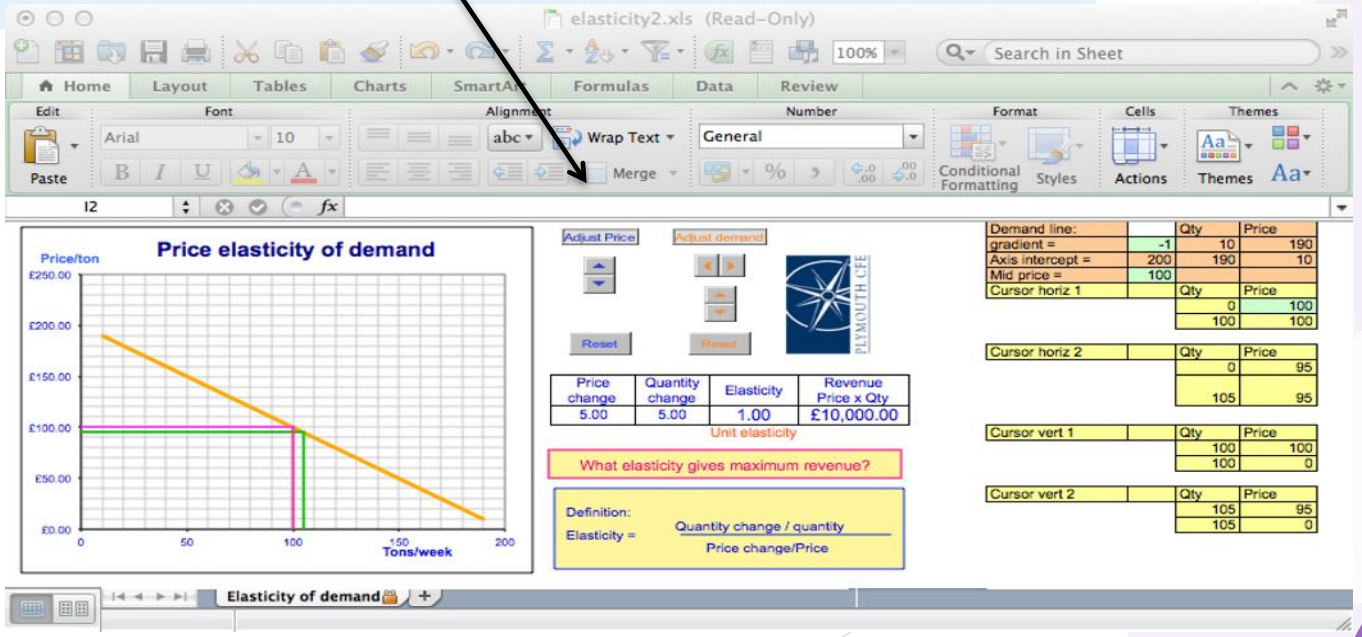
Use the elasticity spreadsheet to assist in matching the following statements.

For an elastic demand, as the price increases — Choose...

For an elastic demand, as the elasticity increases — Choose...

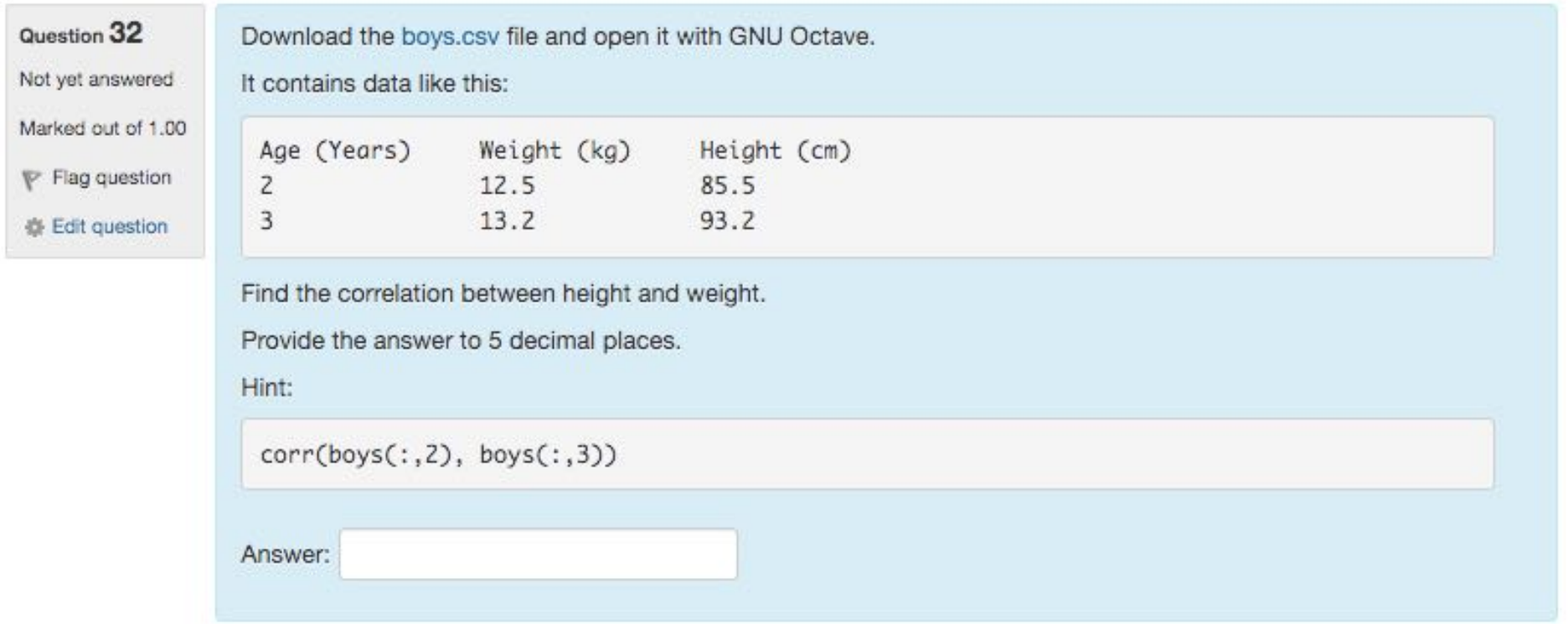
For an inelastic demand, as the elasticity increases — Choose...

Check



Dataset for statistical analysis

1. Download CSV. 2. Open in Octave.
3. Conduct analysis. 4. respond in Moodle.



Question 32

Not yet answered

Marked out of 1.00

Flag question

Edit question

Download the boys.csv file and open it with GNU Octave.

It contains data like this:

```
Age (Years)     Weight (kg)     Height (cm)
2               12.5            85.5
3               13.2            93.2
```

Find the correlation between height and weight.

Provide the answer to 5 decimal places.

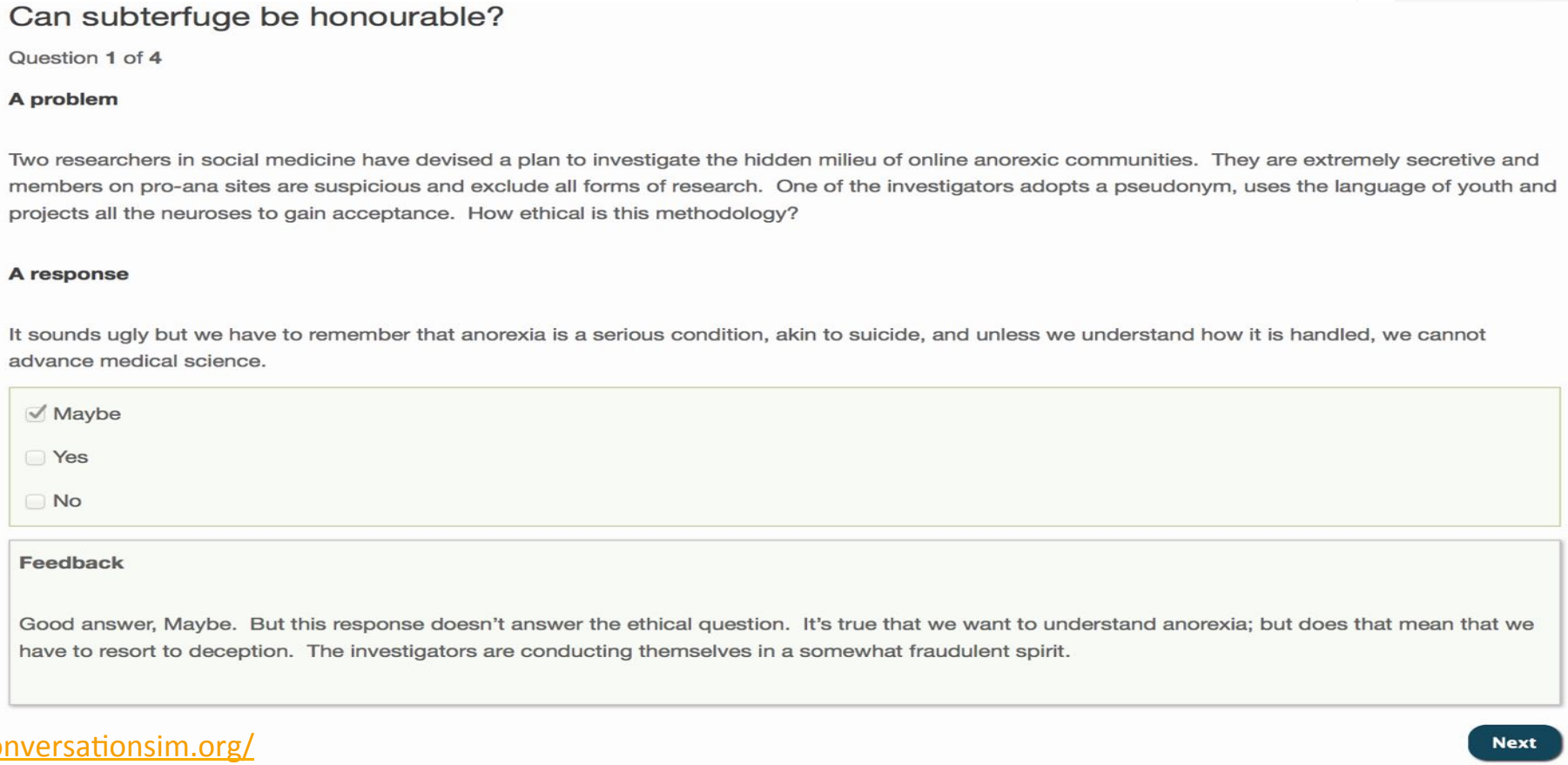
Hint:

```
corr(boys(:,2), boys(:,3))
```

Answer:

Conversation Sim (Monash) – lesson / quiz MCQ

Students respond to a series statements via MCQs (maybe, yes, no) with feedback per choice to simulate a conversation e.g. Moodle lesson activity.



Can subterfuge be honourable?

Question 1 of 4

A problem

Two researchers in social medicine have devised a plan to investigate the hidden milieu of online anorexic communities. They are extremely secretive and members on pro-ana sites are suspicious and exclude all forms of research. One of the investigators adopts a pseudonym, uses the language of youth and projects all the neuroses to gain acceptance. How ethical is this methodology?

A response

It sounds ugly but we have to remember that anorexia is a serious condition, akin to suicide, and unless we understand how it is handled, we cannot advance medical science.

- [x] Maybe
- [ ] Yes
- [ ] No

Feedback

Good answer, Maybe. But this response doesn't answer the ethical question. It's true that we want to understand anorexia; but does that mean that we have to resort to deception. The investigators are conducting themselves in a somewhat fraudulent spirit.

Next

http://conversationsim.org/

Nelson, R & Dawson, P (2013) Assessment-as-learning: introducing the Conversation Sim ,TA webinar/e-Assessment Scotland, 21 Aug http://transformingassessment.com/eAS_2013/events_21_aug_2013.php

Short text response – auto marked

Students type in a short sentence response which can be marked by computer based on pattern matching.

Available in Moodle now.

Example question

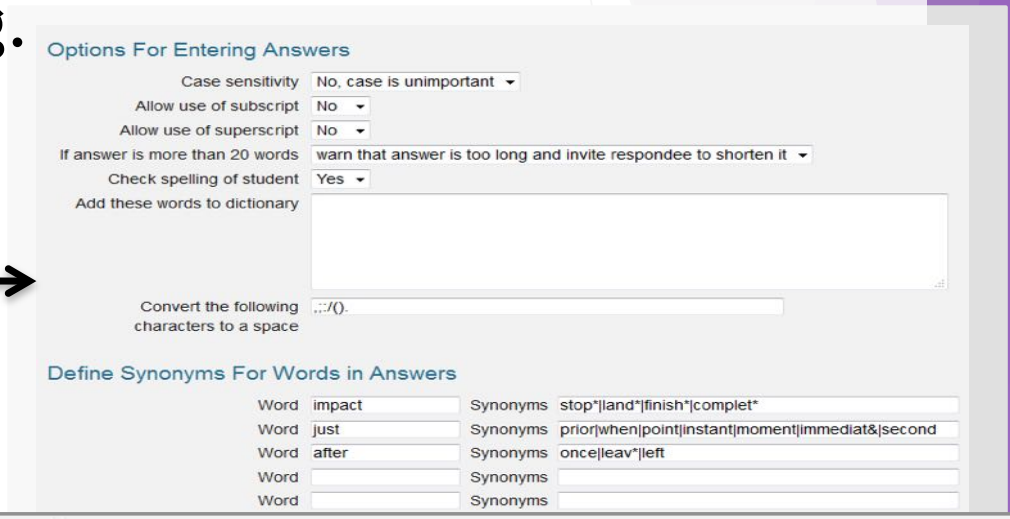
Example settings

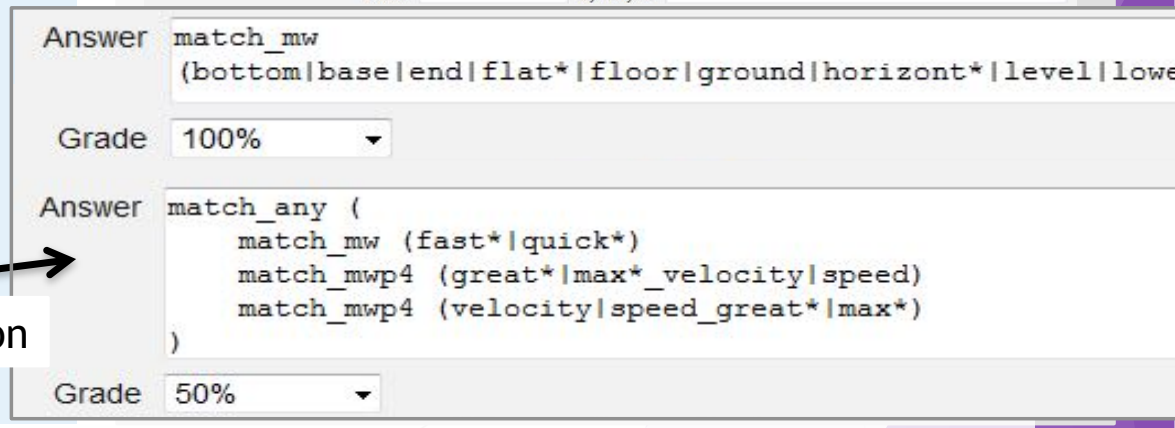
A boy climbs slowly to the top of a slide and then slides down it. At which point will his kinetic energy be a maximum?
Note: Your answer should ignore the effects of friction.

*You should give your answer as a **short** phrase or sentence.*

Kinetic energy will be at maximum when at the bottom of the slide.

evaluation





Confidence questions

Confidence based approaches penalise guessing. Students need to choose a response and declare their level of certainty. Available in Moodle now.

Certainty levels and consequences

Certainty level:	C=1	C=2	C=3	No Reply
Mark if correct:	1	2	3	0
Penalty if wrong (T/F Q)	0	-2	-6	0

Qu. 1:

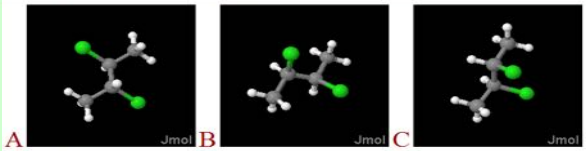
Which structure shown below represents meso 2,3-dichlorobutane, A, B or C?

[Click on the text below to open a window with the three choices]

Three structures, A, B and C

Choose one of the following:

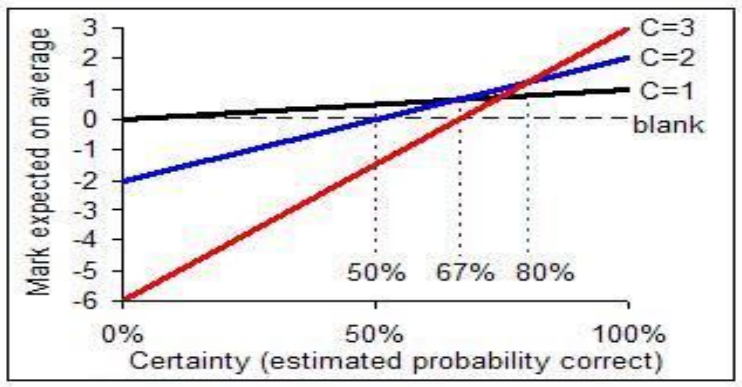
- C
- A
- B



No Reply | **Certainty:** | C=1 (low) | C=2 (mid) | C=3 (high)

Tony Gardner-Medwin, UCL, TA Webinar 6 April 2011
http://transformingassessment.com/events_6_april_2011.php

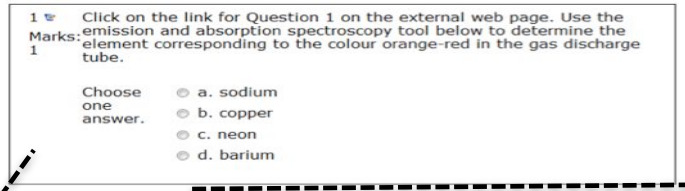
Certainty v Mark Expected



University College London

Moodle and OpenSim Working Together

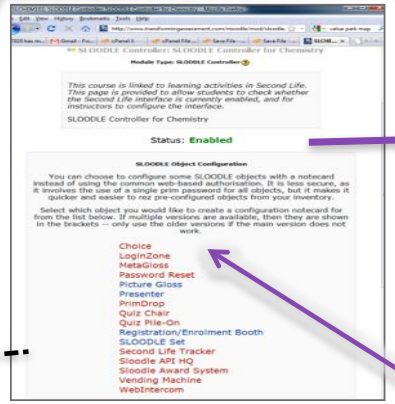
Undertaking an assessment activity in the Virtual World initiates data transfers to the LMS.

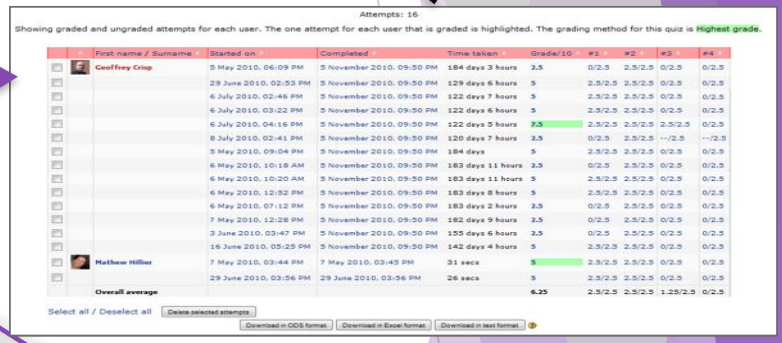


Data flows as if the student was doing the activity in the LMS

moodle

Set up Quiz in the LMS. Results are stored in the in grade book.





SLOODLE
Simulation Linked Object Oriented Dynamic Learning Environment

A set of scripts for Moodle and VW that acts as a bridge.

Student undertakes assessment in the virtual world

Videos: Transforming Assessment Youtube Channel

Case studies

More information and mini cases at
http://transformingexams.com

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mathew.hillier@gmail.com