

COMP1021 Spring 2017 Final Exam Solution

There are no partial marks.

Q1) *4 marks* **green**

The dots are red at 0s, orange at 0.8s, yellow at 1.3s, lightgreen at 2.1s, green at 2.6s and then cyan at 3.4s.

Q2) *4 marks* **B**

The top-right hand corner of the window gives x, y coordinate values of roughly (255, 255), so the color is 255 red + 255 green + 0 blue = yellow.

Q3) *4 marks* **D**

The function calculates the factorial.

Q4) *4 marks* **B**

The other answers give you a reversed list. Answer B reverses the list twice and eventually gives you back the original list.

Q5) *4 marks* **NO**

Q6) *4 marks* **0**

The credits are never accumulated because they are not integers.

Q7) *4 marks* **A**

The code puts numbers divisible by 3 into the “answer” list, and the resulting “answer” list has a length of 1 (containing the number 3).

Q8) *4 marks* **3**

The program counts the number of “at” in the given text.

Q9) 4 marks

The answer has to be **exactly**
the same as shown here:

		x							
	x	x	x						
x	x	x	x	x					
	x	x	x						
		x							

Q10) 4 marks **True** - must have upper case for 'T', must have lower case for 'rue'
If speech marks are used ('True' or "True") the answer is not accepted!

Q11) 4 marks **the fees**
If the student uses speech marks ('the fees' or "the fees") it is OK.

Q12) 8 marks The name of the location is: **scary forest**
If the student uses speech marks
('scary forest' or "scary forest") it is OK.

You are in a dusty sitting room
Which way? (N/S/E/W) e
You are in a pretty garden
Which way? (N/S/E/W) s
You have found a secret tunnel!
You are in a dusty sitting room
Which way? (N/S/E/W) n
You are in a twisty path
Which way? (N/S/E/W) n
Sorry, you can't go that way!
You are in a twisty path
Which way? (N/S/E/W) e
You have found a secret tunnel!
You are in a small bedroom
Which way? (N/S/E/W) e
You have found a secret tunnel!
You are in a scary forest
Which way? (N/S/E/W) n
Sorry, you can't go that way!
You are in a scary forest
Which way? (N/S/E/W) |

Q13) 8 marks When the program is run it produces: **A**

Q14) 8 marks
square(**x** , **y** , **size / 3** , **"white"**)
2 marks for each blank

Q15) 8 marks

```
exams.append({ "code"      : data[0] , \
               "venue"    : data[1] , \
               "students" : data[2:] })
```

(for "students", the answer can be any alternative that can remove the first two items from the list such as `data[2:len(data) :]`)

```
result += exam["code"] + " (" + exam["venue"] +  
        ") " + "\n" MUST HAVE SPEECH MARKS
```

2 marks for each blank

Q16) **10 marks**

```
text_turtle.goto( x , y )
if text_turtle.distance( pos[0] , pos[1] ) <
    level + 5:
```

Alternatively,

```
text_turtle.goto( pos[0] , pos[1] )
if text_turtle.distance( x , y ) <
    level + 5:
```

2 marks for each blank

Q17) 14 marks

Part A. *10 marks* indices[**key**] = **0**

```
indices[key] = indices[key] + 1
```

```
if next_event_time == -1 or \
    next_event_time > music[key][index][0] :
    next event time = music[key][index][0]
```

2 marks for each blank

Part B. 4 marks **5**