Started on	Thursday, 6 October 2022, 10:50 AM
State	Finished
Completed on	Thursday, 6 October 2022, 11:00 AM
Time taken	10 mins 1 sec
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 3.00 out of 3.00

Fill in the gaps to make the code below type check (compile without type errors):

```
n :: Int
n = 42

i :: Bool
i = False

x :: Double
x = 3.14

y :: Double
y = 1.61

example1 = x + [fromIntegral] ✔ (n * [floor] ✔ y - [(\z -> if not z then 1 else 0)] ✔ i)
```

Your answer is correct.

The correct answer is: Fill in the gaps to make the code below type check (compile without type errors):

```
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n = 42

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i = False

x :: Double
x = 3.14

y :: Double
y = 1.61

example1 = x + [fromIntegral] (n * [floor] y - [(\z -> if not z then 1 else 0)] i)
```

Question 2

Correct

Mark 4.00 out of 4.00

Match the following expressions with their corresponding types.

`[False,False]`	[Bool] ✔
`[(),(),()]`	[()] ✔
`[[],[0]]`	[[Int]] ✔
`["hello", 1]`	TYPE ERROR ✔
`(1,2,3)`	(Int, Int, Int) ✔
`[1,2,3]`	[Int] ✔
[("hello", 1)]	[(String, Int)] ✔
`([0],[1])`	([Int],[Int]) ✔

Your answer is correct.

The correct answer is: `[False,False]` → [Bool], `[(),(),()]` → [()], `[[],[0]]` → [[Int]], `["hello", 1]` → TYPE ERROR, `(1,2,3)` → (Int, Int, Int), `[1,2,3]` → [Int], [("hello", 1)] → [(String, Int)], `([0],[1])` → ([Int],[Int])

Question 3

Correct

Mark 3.00 out of 3.00

Consider the following declaration:

```
data Vector = Vector Double Double Double
```

Which of the following is a valid program (will compile without a type or syntax error)?

Select one:

- a. `len Vector x y z = sqrt (x^2 + y^2 + z^2)`
- b. `len Vector (x y z) = sqrt (x^2 + y^2 + z^2)`
- c. `len = sqrt (x^2 + y^2 + z^2)`
- d. `len (x, y, z) = sqrt (x^2 + y^2 + z^2)`
- e. `len v = sqrt (v.x^2 + v.y^2 + v.z^2)`
- f. `len (x y z) = sqrt (x^2 + y^2 + z^2)`
- g. `len (Vector x, y, z) = sqrt (x^2 + y^2 + z^2)`
- h. `len (Vector x y z) = sqrt (x^2 + y^2 + z^2)` ✔
- i. `len (Vector (x, y, z)) = sqrt (x^2 + y^2 + z^2)`
- j. `len x y z = sqrt (x^2 + y^2 + z^2)`
- k. `len v = sqrt (x^2 + y^2 + z^2)`
- l. `len Vector (x, y, z) = sqrt (x^2 + y^2 + z^2)`

Your answer is correct.

The correct answer is: `len (Vector x y z) = sqrt (x^2 + y^2 + z^2)`