Unit 2 - Week 1: Introduction

Assignment 1

Due on 2019-09-11, 23:59 IST.

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

2) Consider the following Haskell definition:

```haskell
f x y z = x \& y \lor z \& \neg z \lor \neg x \lor \neg y
```

Which of the following is a possible type of \( f \)?

- a) \( \text{Bool} \rightarrow \text{Bool} \rightarrow \text{Bool} \)
- b) \( \text{Bool} \rightarrow \text{Bool} \rightarrow \text{Int} \rightarrow \text{Bool} \)
- c) \( \text{Bool} \rightarrow \text{Bool} \rightarrow \text{Int} \rightarrow \text{Int} \)
- d) \( \text{Bool} \rightarrow \text{Bool} \rightarrow \text{Int} \rightarrow \text{Int} \rightarrow \text{Int} \)

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- a) \( \text{Bool} \rightarrow \text{Bool} \rightarrow \text{Bool} \)

2 points

3) Consider the following Haskell definition:

```haskell
f x y z = \neg y \lor \neg z \lor \neg x \lor y \lor z
```

If \( x \) and \( y \) are \( \text{True} \), which of the following three output combinators are possibilities?

- a) \( \text{False} \)
- b) \( \text{True} \)
- c) \( \text{False} \lor \text{False} \)
- d) \( \text{True} \lor \text{True} \)

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- b) \( \text{True} \)

2 points

4) Consider the following incomplete definition of the `cartesian` function:

```haskell
cartesian :: Int -> Int -> Int
```

Which of the following is a correct replacement for the `...`?

- a) \( \text{False} \)
- b) \( \text{True} \)
- c) \( \text{not x} \)
- d) \( \text{y} \)

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- d) \( \text{y} \)

2 points

5) Consider the following recursive function definitions:

```haskell
f x = 1 + x
f 1 = 1 + f (x - 1)
```

What is the value of \( f(3) \)?

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- Type: \( \text{Int} \)

2 points

6) Consider the following recursive function definition:

```haskell
n = 0
k = n \& (n + 1) \& (n + 2)
```

What is the value of \( k \)?

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- Type: \( \text{Int} \)

2 points

7) Consider the following recursive definition:

```haskell
f n = g n
```

```haskell
\begin{align*}
g n &= 0 \\
g n &= g(n - 1) + h(n - 1) \\
h n &= \text{div} n 10 \\
h n &= n \mod 10
\end{align*}
```

What is the value of \( f(57) \)?

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- Type: \( \text{Int} \)

2 points

8) Consider the following recursive definition:

```haskell
f n = g n
```

```haskell
\begin{align*}
g n &= 0 \\
g n &= g(n - 1) + h(n - 1) \\
h n &= \text{div} n 10 \\
h n &= n \mod 10
\end{align*}
```

What is the value of \( f(57) \)?

No, the answer is incorrect.

Score: 0

Accepted Answers: 
- Type: \( \text{Int} \)

2 points