

## Quiz 04 - 04/02/24

Thank you. Your responses have been automatically graded. Here are your results.

### Score Summary

(Click on question number to jump to question.)		points earned	points possible
<a href="#">Question 1</a>	correct	1	1
<a href="#">Question 2</a>	correct	1	1
<a href="#">Question 3</a>	correct	1	1
<a href="#">Question 4</a>	correct	1	1
<a href="#">Question 5</a>	correct	1	1
<a href="#">Question 6</a>	correct	1	1
<a href="#">Question 7</a>	correct	1	1
<a href="#">Question 8</a>	correct	1	1
<a href="#">Question 9</a>	correct	1	1
<a href="#">Question 10</a>	correct	1	1
<a href="#">Question 11</a>	correct	1	1
<a href="#">Question 12</a>	correct	1	1
<a href="#">Question 13</a>	correct	1	1
<a href="#">Question 14</a>	correct	1	1
<a href="#">Question 15</a>	correct	1	1
<a href="#">Question 16</a>	correct	1	1
<a href="#">Question 17</a>	correct	1	1
<a href="#">Question 18</a>	correct	1	1
<a href="#">Question 19</a>	correct	1	1
<a href="#">Question 20</a>	correct	1	1
Score: (100%)		20	20

1. What is z bound to?

```
val x = 4
fun f y = x + y
val x = 5
val y = 2
val z = f (x+y)
```

The following answer is acceptable:

11

Your response:

11

Feedback: Correct.

Points earned: 1 out of 1

2. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f,n-1,x))  
  
val x = mystery1((fn x => x * 3), 4, 2)
```

**The following answer is acceptable:**

162

**Your response:**

162

**Feedback:** Correct

**Points earned:** 1 out of 1

3. What is z bound to?

```
val x = 5  
fun f y = x * y  
val x = 2  
val y = 6  
val z = f (x+y)
```

**The following answer is acceptable:**

40

**Your response:**

40

**Feedback:** Correct.

**Points earned:** 1 out of 1

4. What is z bound to?

```
val x = 10  
fun f y =  
  let  
    val x = y+3  
  in  
    fn z => x + y + z  
  end  
val x = 2  
val g = f 5
```

```
val y = 8  
val z = g 6
```

**The following answer is acceptable:**

19

**Your response:**

19

**Feedback:** Correct.

**Points earned:** 1 out of 1

5. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=1  
  then x  
  else f (mystery1(f,n-1,x))
```

```
val x = mystery1((fn x => x * 10), 3, 4)
```

**The following answer is acceptable:**

400

**Your response:**

400

**Feedback:** Correct

**Points earned:** 1 out of 1

6. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f,n-1,x))
```

```
fun mystery2 x = x*3
```

```
val x = mystery1(mystery2, 3, 5)
```

**The following answer is acceptable:**

135

**Your response:**

135

**Feedback:** Correct

**Points earned:** 1 out of 1

7. What is x bound to when you run the following ML code?

```
fun filter (f,xs) =  
  case xs of  
    [ ] => [ ]  
  | x::xs' => if f x  
               then x::(filter(f,xs'))  
               else filter(f,xs')  
  
fun allShorterThan1 (xs,s) = filter (fn x => String.size x < String.size s, xs)  
  
val myList = ["soup", "dog", "orange", "park", "cat"]  
val x = allShorterThan1 (myList, "loop")
```

**The following answers are acceptable:**

- ["dog", "cat"]
- ["dog","cat"]

**Your response:**

["dog","cat"]

**Feedback:** Correct

**Points earned:** 1 out of 1

8. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f, n-1, x))  
  
fun mystery2 x = x+3  
  
val x = mystery1(mystery2, 3, 10)
```

**The following answer is acceptable:**

19

**Your response:**

19

**Feedback:** Correct.

**Points earned:** 1 out of 1

9. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f,n-1,x))
```

```
fun mystery2 x = x+x
```

```
val x = mystery1(mystery2, 5, 1)
```

**The following answer is acceptable:**

32

**Your response:**

32

**Feedback:** Correct

**Points earned:** 1 out of 1

10. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f,n-1,x))
```

```
fun mystery2 x = x*3
```

```
val x = mystery1(mystery2, 4, 2)
```

**The following answer is acceptable:**

162

**Your response:**

162

**Feedback:** Correct

**Points earned:** 1 out of 1

11. What is z bound to?

```
fun f g =  
  let  
    val x = 4  
  in  
    g 7
```

```
end
val x = 9
fun h y = x + y
val z = f h
```

**The following answer is acceptable:**

16

**Your response:**

16

**Feedback:** Correct.

**Points earned:** 1 out of 1

12. What is x bound to when you run the following ML code?

```
fun filter (f,xs) =
  case xs of
    [] => []
  | x::xs' => if f x
               then x::(filter(f,xs'))
               else filter(f,xs')

fun allGreaterThanSeven xs = filter (fn x => x > 7, xs)

fun allGreaterThan (xs,n) = filter (fn x => x > n, xs)

val myList = [1, 2, 3, 4, 5, 6, 7, 8, 9]
val x = allGreaterThan (myList, 5)
```

**The following answers are acceptable:**

- [6, 7, 8, 9]
- [6,7,8,9]

**Your response:**

[6,7,8,9]

**Feedback:** Correct

**Points earned:** 1 out of 1

13. What value is bound to x?

```
fun mystery1 (f,n,x) =
  if n=0
  then x
  else f (mystery1(f,n-1,x))
```

```
val x = mystery1((fn x => x * 3), 4, 1)
```

**The following answer is acceptable:**

81

**Your response:**

81

**Feedback:** Correct

**Points earned:** 1 out of 1

14. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f, n-1, x))
```

```
val x = mystery1((fn x => x + 3), 4, 5)
```

**The following answer is acceptable:**

17

**Your response:**

17

**Feedback:** Correct.

**Points earned:** 1 out of 1

15. What is z bound to?

```
val x = 6  
fun f y =  
  let  
    val x = y+4  
  in  
    fn z => x + y + z  
  end  
val x = 5  
val g = f 10  
val y = 10  
val z = g 2
```

**The following answer is acceptable:**

26

**Your response:**

26

**Feedback:** Correct.

**Points earned:** 1 out of 1

16. What is **ans** bound to after the following ML code is evaluated?

```
fun f x = List.map hd x
fun g x =
  case x of
    a::(b::c) => b
  | _=>0
val ans = g (f [[1,2],[3,4],[5,6],[7,8]])
```

**The following answer is acceptable:**

3

**Your response:**

3

**Feedback:** Correct

**Points earned:** 1 out of 1

17. What value is bound to x?

```
fun mystery1 (f,n,x) =
  if n=0
  then x
  else f (mystery1(f,n-1,x))
```

```
fun mystery2 x = x+x
```

```
val x = mystery1(mystery2, 6, 8)
```

**The following answer is acceptable:**

512

**Your response:**

512

**Feedback:** Correct

**Points earned:** 1 out of 1



18. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f, n-1, x))  
  
val x = mystery1((fn x => x + 3), 3, 10)
```

**The following answer is acceptable:**

19

**Your response:**

19

**Feedback:** Correct.

**Points earned:** 1 out of 1

19. What value is bound to x?

```
fun mystery1 (f,n,x) =  
  if n=0  
  then x  
  else f (mystery1(f,n-1,x))  
  
val x = mystery1((fn x => x * 3), 3, 5)
```

**The following answer is acceptable:**

135

**Your response:**

135

**Feedback:** Correct

**Points earned:** 1 out of 1

20. What is **ans** bound to after the following ML code is evaluated?

```
val q = fn x => List.map tl x  
val ans = q [[1,2,3],[4,5]]
```

**The following answers are acceptable:**

- [[2,3],[5]]
- [[2, 3], [5]]
- [[2, 3],[5]]
- [[2,3], [5]]

**Your response:**

`[[2,3],[5]]`

**Feedback:** Correct

**Points earned:** 1 out of 1