Quiz 5 (Scope & Parameters)

Due Mar 5 at 11:59pm **Points** 100 **Questions** 10
Available Feb 28 at 12am - Mar 5 at 11:59pm **Time Limit** 90 Minutes
Allowed Attempts 2

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	25 minutes	100 out of 100
LATEST	Attempt 2	25 minutes	100 out of 100
	Attempt 1	80 minutes	80 out of 100

Score for this attempt: **100** out of 100
Submitted Mar 5 at 2:37pm
This attempt took 25 minutes.

Question 1

10 / 10 pts

What is the value of the following expression?

```
let x = 1 in (let x=2 in x,x)
```

- (1,1)
- (1,2)
- (2,2)
- 2
- (2,1)

Correct!

Question 2

10 / 10 pts

What is the runtime stack under **dynamic** scoping and CBV immediately after the statement on line 9?

```
1  { int x;
2    x := 4;
3    { int f (int y) {
4       x := x+y;
5       return (x+1);
6      };
7      { int x;
8        x := 6;
9        x := f(x-1);
10     };
11   };
12 }
```

- [x:5, f:{}, x:4]
- [x:6, f:{}, x:2]
- none of these answers
- [x:12]

Correct!

- [x:12, f:{}, x:4]

Question 3

10 / 10 pts

What is the runtime stack under **dynamic scoping** and CBV immediately after the statement on line 4?

```
1  { int x;
2    x := 4;
3    { int f (int y) {
4       x := x+y;
5       return (x+1);
6      };
7      { int x;
8        x := 6;
9        x := f(x-1);
10     };
11   };
```

```
12 }
```

- [y: 3, x:9, f:{}, x:4]
- [x:11, f:{}, x:4]

Correct!

- [y: 5, x:11, f:{}, x:4]
- none of these answers
- [y: 5, x:6, f:{}, x:10]

Question 4

10 / 10 pts

What is the runtime stack under **static scoping** and CBV immediately after the statement on line 8?

```
1  { int x;
2    x := 4;
3    { int f (int y) {
4       x := x+y;
5       return (x+1);
6      };
7      { int x;
8        x := 6;
9        x := f(x-1);
10     };
11   };
12 }
```

- [x:6, f: {}]

Correct!

- [x:6, f: {}, x:4]
- [x:4, f: {}, x:6]
- [x:6, x:4]
- None of these answers

Question 5

10 / 10 pts

What is the runtime stack under **static scoping** and CBV immediately after the statement on line 4?

```
1  { int x;
2    x := 4;
3    { int f (int y) {
4       x := x+y;
5       return (x+1);
6      };
7      { int x;
8        x := 6;
9        x := f(x-1);
10     };
11   };
12 }
```

- [y: 3, x: 9, f: {}, x: 4]
- [y: 5, x: 11, f: {}, x: 4]
- [y: 3, x: 6, f: {}, x: 7]
- None of these answers

Correct!

- [y: 5, x: 6, f: {}, x: 9]

Question 6

10 / 10 pts

What is the the value of z after the statement on line 5 using **dynamic scoping** and CBV?

```
1    {int z := 1;
2      {int f(int x) {return x+1};
3        {int g(int y) {return f(y)};
4          {int f(int x) {return x-1};
5            z := g(4);
6        .....
```

Correct!

- (selected) 3
- 4
- 1
- 5

Question 7

10 / 10 pts

What is the the value of z after the statement on line 5 using **static scoping** and CBV?

```
1    {int z := 1;
2      {int f(int x) {return x+1};
3        {int g(int y) {return f(y)};
4          {int f(int x) {return x-1};
5            z := g(4);
6        .....
```

- 3

Correct!

- (selected) 5
- 4
- 1

Question 8

10 / 10 pts

Using Call-By-Reference (CBR), what is the value of z after the statement on line 10?

```
1   {int z;
2    int y;
3    y := 6;
4    {int f(ref int x) {
5       x:= x-1;
```

```
6       y:= x+4;
7       x:= x-1;
8       return x;
9    };
10   z := y + f(y);
11  };
```

- 11
- 12

Correct!

- 14
- 16
- None of these

Question 9

10 / 10 pts

Using Call-By-Value-Result (CBVR), what is the value of z after the statement on line 10?

```
1   {int z;
2    int y;
3    y := 6;
4    {int f(valres int x) {
5       x:= x-1;
6       y:= x+4;
7       x:= x-1;
8       return x;
9    };
10   z := y + f(y);
11  };
```

- 6
- 4

Correct!

- 10
- 8
- None of these

Question 10

10 / 10 pts

Using Call-By-Name (CBN), what is the value of y after the statement on line 7?

```
1   {int y;
2    y := 6;
3    {int f (int x) {
4       y:= x+4;
5       return (y+x);
6    };
7   y := f(y+2);
8  };
```

- 18
- 20
- 26 (Correct!)
- 14
- None of these

Quiz Score: **100** out of 100