

Quiz: Control Flow

1. Which of the following code blocks prints the squares of the numbers from 1 to 10 (including 1 and 10)?

A n = 1
 while n < 10
 println(n**2)
 n += 1
 end

B n = 0
 while n < 11
 println(n**2)
 n += 1
 end

C n = 1
 while n < 11
 println(n^2)
 n += 1
 end

D n = 0
 while n < 11
 println(n^2)
 n += 1
 end

2. What will be the output of the following code?

```
m, n = 3, 4  
a = fill(0, (m, n))  
length(a)
```

A 12

B 4

C 1

D 3

3. What will be the output of the following code?

```
a = ["Joe", "has", "an", "array"]
i = 1
while i < length(a)
    print(a[i])
    i += 1
end
```

A Joe has an array

B Joe has an array

C Joe has an

D Joe has an

4. What will be the output of the following code?

```
a = fill(0, (2, 6))
for i in 1:2, j in 1:6
    a[i, j] = i + j
end
a
```

A 2×6 Array{Int64,2}:
0 0 0 0 0 0
0 0 0 0 0 0

B 2×6 Array{Int64,2}:
2 3 4 5 6 7
3 4 5 6 7 8

C 2×6 Array{Int64,2}:
8 8 8 8 8 8
8 8 8 8 8 8

D Error

5. Which of the following creates a list of the numbers from 1 to 10?

A [x for x in 1:10]

B [x for x in range(10)]

C [1:10]

D None of the above

6. What is this method to create an array called?

a = [x^2 for x in 1:10]

A List correspondence

B Anonymous function

C Array comprehension

D Short-circuit evaluation

7. What does the following code create?

a = [i == j ? 1 : 0 for i in 1:5, j in 1:5]

A A 5x5 Identity Matrix

B A 5x5 matrix with all ones

C A 5x5 matrix with all zeros

D Error

8. Which of the following code blocks prints the text correctly?

A if a < 100
 println("a has two digits")
 elseif a < 10
 println("a has one digit")
 else
 println("a has more than 2 digits")
 end

B if a < 10
 println("a has one digit")
 elseif a < 100
 println("a has two digits")
 else
 println("a has more than 2 digits")
 end

C if a <= 10
 println("a has one digit")
 elseif a < 100
 println("a has two digits")
 else
 println("a has more than 2 digits")
 end

D if a <= 10
 println("a has one digit")
 elseif a <= 100
 println("a has two digits")
 else
 println("a has more than 2 digits")
 end

9. What is the following code called?

```
println(b > c ? b : c)
```

A Array Comprehension

B Short-circuit evaluation

C Anonymous function

D Ternary Operator

10. Which of the following is a function that returns the square of a number x ?

A function square(x)
 return square(x)
 end

B function square(x)
 return x^{**2}
 end

C function square(x)
 return x^2
 end

D function square(x)
 $x = x^2$
 end

11. Which of the following prints “Hello, World”?

A true && println("Hello, World")

B false && println("Hello, World")

C true and println("Hello, World")

D false and println("Hello, World")

12. Which of the following returns the square of a number x ?

A $f = x^{**2}$

B $f = x^2$

C $f = x \rightarrow x^2$

D None of the above

13. Which of the following is a function that returns the square of each number in an array?

- A

```
function square_arr(x)
      return x.^2
end
```
- B

```
function square_arr(x)
      return x^2
end
```
- C

```
function square_arr(x)
      return square_arr.(x)
end
```
- D

```
function square_arr!(x)
      return x^2
end
```

14. Which of the following sorts the array x?

- A `sort(x)`
- B `sort!(x)`
- C `sort.(x)`
- D None of the above

15. Why do we use the ! symbol for mutating functions?

- A Convention
- B So the compiler knows the function is mutating
- C Because ! shows importance
- D None of the above