Practice Quiz: Introduction to Rust

**Circle** the most appropriate answer to each of the following questions.

1. The expression **‘5’** in ***Rust*** is a data type called a*(n)*:
2. i32 (b) f64 (c) string (d) char
3. The expression **(2,5)** in ***Rust*** is a data type called a*(n)*:
4. integer (b) float ing-point (c) tuple (d) Boolean
5. The value **false** in ***Rust*** is a data type called a*(n)*:
6. i32 (b) f64 (c) string (d) bool
7. The value **7.54** in ***Rust*** is a data type called a*(n):*
8. i32 (b) f64 (c) string (d) bool
9. What is the output of the following ***Rust*** code.

let a = 25;  
let b = 5;  
let c = a – 10;  
**println!**( “{}”, c + b - a );

(a) -5 (b) 10 (c) 5 (d) 20

1. Which ***Rust*** code will produce the **integer** value 3?
2. **println!**( “{}”, 13 / 4 );
3. **println!**( “{}”, 12 % 4 );
4. **println!**( “{}”, 13 // 4 );
5. **println!**( “{}”, 12 / 4.0 );
6. Which ***Rust*** code will produce the **floating point** value 3.0 ?
7. **println!**( 3 );
8. **println!**( 12 / 4 );
9. **println!**( 12 % 4 );
10. **println!**( 12.0 / 4.0 );
11. The output of a ***Rust*** program is:

Welcome to our 2022 computer science class!

Which code will produce this output?

|  |  |
| --- | --- |
| (a) | **println!**( Welcome to our 2022 computer science class! ); |
| (b) | let year = 2022; **println!**( Welcome to our, year, computer science class! ); |
| (c) | let year = 2022; **println!**( "Welcome to our {year} computer science class!"); |
| (d) | let year = 2022; **println!**( "Welcome to our {} computer science class!", year ); |

1. The output of a program is:

5:37

What ***Rust*** code would produce this output?

|  |  |
| --- | --- |
| (a) | **println!**( 5:37 ); |
| (b) | let minutes = 5; let seconds = 37; **println!**( “{}:{}”, minutes, seconds ); |
| (c) | let minutes = 5; let seconds = 37; **println!**(“{minutes}:{seconds}”); |
| (d) | let minutes = 5; let seconds = 37; **println!**( “minutes:seconds” ); |

1. The output of a program is:

547

Which ***Rust*** code would produce this value?

|  |  |
| --- | --- |
| (a) | let value = 754; **println!**( “{}”, value / 100 ); |
| (b) | let value = 754; **println!**( “{}”, value % 100 ); |
| (c) | let value = 754; **println!**( “{}{}”, value % 100, value / 100 ); |
| (d) | let value = 754; **println!**(“{}{}”, value / 100, value % 100); |

1. Select the ***Rust*** code that will produce the following output:

YES

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | let answer = 42; **if**answer % 2 == 0 {     **println!**("YES"); **} else {**     **println!**("NO");  **}** | (b) | let answer = 42; **if**answer % 2 == 0 {     **println!**("NO"); **} else {**     **println!**("YES");  **}** |
| (c) | let answer = 42; **if**answer % 2 != 0 {     **println!**("YES"); **} else {**     **println!**("NO");  } | (d) | let answer = 42; **if**answer % 2 > 0 {     **println!**("YES"); **} else {**     **println!**("NO");  } |

1. Select to ***Rust*** code that will produce the following output:

-1

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | let answer = -15; **if**answer >  0 {     **println!**(“{}”,1); **} else if** answer < 0 **{**     **println!**( “{}”,-1); **} else {**     **println!**( “{}”,0);  } | (b) | let answer = 15; **if**answer >  0 {     **println!**( “{}”,1); **} else if**answer < 0 **{**     **println!**( “{}”,-1); **} else {**     **println!**( “{}”,0);  } |
| (c) | let answer = 0; **if**answer >  0 {     **println!**( “{}”,1); **} else if**answer < 0 {     **println!**( “{}”,-1); **} else {**     **println!**( “{}”,0);  } | (d) | let answer = 15; **if**answer >  0 {     **println!**( “{}”,1); **} else {**     **println!**( “{}”,-1);  } |

1. Select the ***Rust*** code that will produce the following output:

0 1 2 3 4 5 6 7 8 9

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | **for i** in 1..10 {     **print!**(i);  } | (b) | **for i** in 0..10 **{     print!(**"{} ", i**);**  **}** |
| (c) | **for i** in 0..9 {     **print!**(i);  } | (d) | **for i** in 0..9 {     **print!**("{} ", i);  } |

1. Select the ***Rust*** code that will produce the following output:

12 10 8 6 4 2 0

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | **for i** in (0..12).rev() {     **print!**("{} ",i)  } | (b) | **for i** in (0..12).step\_by(2) {     **print!**("{} ",i)  } |
| (c) | **for i** in (0..12).step\_by(2).rev() {     **print!**("{} ",i)  } | (d) | **for i** in (0..13).step\_by(2).rev() {     **print!**("{} ",i)  } |

1. Select the ***Rust*** code that will produce the following output with **no compiler warnings**:

Hello World!  
Hello World!  
Hello World!

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | **for** i in 0..3 {     **println!**("Hello World!");  } | (b) | **for \_**i in 1..3 {     **println!**("Hello World!");  } |
| (c) | **for \_**i in 0..3 {  **println!**("Hello World!");  } | (d) | **for**i in 1..3 {     **println!**("Hello World!"); } |

1. Select the ***Rust*** code that will output the **sum** of the **first 10 whole numbers**, producing the following output:

55

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | let mut total = 0; **for** \_i in 0..10 {     total++;  } **println!**(“{}”,total); | (b) | let mut total = 0; **for**i in 0..11 {     total += i;  } **println!**( “{}”,total); |
| (c) | let total = 0; **for**i in 0..11 {     total = total + i;  }  **println!**( “{}”,total); | (d) | let mut total = 1; **for**\_i in 0..11 {     total += 1;  } **println!**( “{}”,total); |

1. Select the following ***Rust*** code that will produce the output:

77

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | let marks = [65, 85, 77, 90]; **println!**(  “{:?}”, marks ); | (b) | let marks = [65, 85, 77, 90]; **println!**(  “{}”, marks[0] ); |
| (c) | let marks = [65, 85, 77, 90]; **println!**(  “{}”, marks[1] ); | (d) | let marks = [65, 85, 77, 90]; **println!**(  “{}”, marks[2] ); |

1. A **function** in ***Rust*** is defined as follows

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | fn double(x: i32) -> i32 {  x\*2;  } | (b) | fn double(x) {  x\*2  } |
| (c) | func double(int x) int {  x\*2  } | (d) | fn double(x: i32) -> i32 {  x\*2  } |

1. Select the ***Rust*** code that will output the value of 5! *(5x4x3x2x1)*, producing the following output:

120

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | let product = 0; **for**i **in** 1..6 {     product = product\* i;  } **println!**(“{}”, product); | (b) | let mut product = 1; **for**i **in** 1..6 {     product = product\* i;  } **println!**( “{}”, product); |
| (c) | let mut product = 1; **for**i **in** 0..6 {     product = product\* i;  } **println!**( “{}”, product); | (d) | let product = 1; **for**i **in** 0..5 {     product = product\* i;  } **println!**( “{}”, product); |

1. What symbol do you use to make a comment in ***Rust***?
2. @ (b) // (c) <> (d) #