

# CSE110 Review Questions (Solutions)

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## 1 Data Types

**Question 1** Give the output of the following program:

```
public class Example {
    public static void main(String[] args) {
        int y = 2, z = 1;
        z = y * 2;
        System.out.print(y + z);
    }
}
```

Answer: 6. This is because y is 2, and 2\*2 is stored in z. Now, z=4, and y is the same value (2). Therefore, 4+2 = 6.

**Question 2** Consider the following program:

```
public class Example {
    public static void main(String[] args) {
        String str = new String("Arizona state university");
        char ch1 = str.toLowerCase().toUpperCase().charAt(0);
        char ch2 = str.toUpperCase().charAt(8);
        char ch3 = str.toUpperCase().charAt(str.length() - 1);
        System.out.println("character 1 is: " + ch1);
        System.out.println("character 2 is: " + ch2);
        System.out.println("character 3 is: " + ch3);
    }
}
```

What will be the output?

character 1 is: A

character 2 is: S

character 3 is: Y

**Question 3** Consider the following program:

```
public class Example {
    public static void main(String[] args) {
        int num1 = 4, num2 = 5;
        System.out.println("4" + "5");
        System.out.println(num1 + num2);
        System.out.println("num1" + "num2");
        System.out.println(4+5);
    }
}
```

What will be the output?

Answer:

45

9

num1num2

9

**Question 4** Which of the following invokes the method `length()` of the object `str` and stores the result in `val` of type `int`?

a) `int val = str.length();`

b) `int val = length.str();`

c) `int val = length().str;`

d) `int val = length(str);`

Answer: A

**Question 5** Evaluate each of the following expressions.

`String s = "Programming is Fun";`

`String t = "Workshop is cool";`

a) `System.out.println(s.charAt(0) + t.substring(3, 4));`

b) `System.out.println(t.substring(7));`

Answers:

a) Pk

b) p is cool

**Question 6** Evaluate each of the following expressions.

`int j = 11;`

`int k = 3;`

`String s = "Ford Rivers";`

a) `j / k`

b) `j % k`

c) `s.substring(1, 5)`

d) `s.length()`

e) `s.charAt(3)`

Answers:

a) 3

b) 2

c) ord

d) 11

e) d

**Question 7** True or False? The type `char` is a primitive data type. Answer: True

**Question 8** True or False? The type `String` is a primitive data type. Answer: False

**Question 9** Write a Java program that asks the user for the radius of a circle and finds the area of the circle.

Answer:

```
import java.util.Scanner;
```

```
public class Circle {
```

```
    public static void main(String[] args) {
```

```

        final double PI = 3.14159;
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter radius: ");
        double radius = scan.nextDouble();
        double area = PI * radius * radius;
        System.out.println("The area is: " + area);
    }
}

```

**Question 10** Write a Java program that prompts the user to enter 2 integers. Print the smaller of the 2 integers.

**Answer:**

```

import java.util.Scanner;
public class Smaller {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter 2 integers:");
        int a = scan.nextInt();
        int b = scan.nextInt();
        System.out.println("The smaller integer is " + Math.min(a, b));
    }
}

```

**Question 11** Write the output of the following program:

```

public class Question {
    public static void main(String[] args) {
        String str = "hello";
        System.out.println("abcdef".substring(1, 3));
        System.out.println("pizza".length());
        System.out.println(str.replace('h', 'm'));
        System.out.println("hamburger".substring(0, 3));
        System.out.println(str.charAt(1));
        System.out.println(str.equals("hello"));
        System.out.println("pizza".toUpperCase());
        System.out.println(Math.pow(2, 4));
        double num4 = Math.sqrt(16);
        System.out.println(num4);
    }
}

```

**Answers:**

bc  
5  
mello  
ham  
e  
true  
PIZZA  
16.0  
4.0

**Question 12** Write the output of the following program:

```

public class Question {
    public static void main(String[] args) {
        String s1 = new String("Clinton, Hillary");
        String s2 = new String("Obama, Barack");
        System.out.println(s1.charAt(2));
        System.out.println(s1.charAt(s1.length() - 1));
        System.out.println(s2.toUpperCase());
        System.out.println(s2.substring(s2.indexOf(",") + 2, s2.length()));
    }
}

```

Answers:

i

y

OBAMA, BARACK

Barack

**Question 13** What value is contained in the integer variable length after the following statements are executed?

```

length = 5;
length += 3;
length = length * 2;

```

Answer: 16

**Question 14** What is the result of 2/4 when evaluated in Java? Why? Answer: 0. It is an integer division.