

WEEK 1 : JAVA ARCHITECTURE ,LANGUAGE BASICS

Which primitive type ranges from -2^{15} to $(2^{15})-1$?

- ☐ a. int
- ☐ b. byte
- ☐ c. char
- ☒ d. short ✓

The correct answer is:
short

Which one of these lists contains only Java programming language keywords?

- ☐ a. strictfp, constant, super, implements, do
- ☒ b. class, if, void, long, Int, continue ✗
- ☐ c. byte, break, assert, switch, include
- ☐ d. goto, instanceof, native, finally, default, throws

The correct answer is:
goto, instanceof, native, finally, default, throws

Which one of the following is a short-circuit operator?

- ☐ a. |
- ☐ b. ^
- ☐ c. &
- ☒ d. && ✓

The correct answer is:

&&

Given a variable x of type int (which contains a positive value), which is the correct way of doubling the value of x, barring any wrapping of out-of-range intermediate values?

- ☐ a. `x >>> 1;`
- ☐ b. `x << -1;`
- ☒ c. `x >> 1;` ✗
- ☐ d. `x << 1;`

The correct answer is:

`x << 1;`

If i is an int and s is a short, how do you assign i to s?

- ☐ a. `i = (int) s;`
- ☒ b. `s = (short) i;` ✓
- ☐ c. `s = i;`
- ☐ d. `i = s;`

The correct answer is:

`s = (short) i;`

Given:

```
int a = 4;
```

```
byte b = 0;
```

Which line assigns the value of a to b?

- ☐ a. `b = byte a;`
- ☐ b. `b = a;`
- ☒ c. `b = (byte) a;` ✓
- ☐ d. `b = byte(a);`

The correct answer is:

```
b = (byte) a;
```

Which of the following is a valid declaration of boolean?

- ☐ a. `boolean b2 = no;`
- ☐ b. `boolean b5 = Boolean.false();`
- ☒ c. `boolean b4 = false;` ✓
- ☐ d. `boolean b3 = yes;`

The correct answer is:

```
boolean b4 = false;
```

Which of the following primitive data type is an integer type?

- ☐ a. boolean
- ☐ b. float
- ☐ c. double
- ☒ d. byte ✓

The correct answer is:
byte

Why is the main() method special in Java program?

- ☒ a. It is where the execution of a Java program starts. ✓
- ☐ b. The main() method must be the only static method in a program.
- ☐ c. Every class must have a main() method.
- ☐ d. Only the main() method may create objects.

The correct answer is:
It is where the execution of a Java program starts.

Given a variable x of type int (which can contain a negative value), which of these expressions always gives a positive number irrespective of the value of x?

- ☒ a. `x >> 1;` ✗
- ☐ b. `x << 1;`
- ☐ c. `x << 2;`
- ☐ d. `x >>> 1;`

The correct answer is:
`x >>> 1;`

Which of the following is a valid initialization?

- ☐ a. `long l = 79,653;`
- ☐ b. `int i = 0xDeadCafe;`
- ☒ c. `boolean b = TRUE;` ✖
- ☐ d. `float f = 27.893;`

The correct answer is:

`int i = 0xDeadCafe;`

Which of the following is a valid Java identifier?

- ☐ a. `@attherate`
- ☐ b. `%percent`
- ☐ c. `3numbers`
- ☒ d. `_underscore` ✔

The correct answer is:

`_underscore`

Which of the following is correct?

$128 >>> 1$ gives

- ☒ a. 64 ✓
- ☐ b. -32
- ☐ c. -64
- ☐ d. 32

The correct answer is:

64

What is the value of x after this code is run?

```
int x = 3;
```

```
int y = 3;
```

```
x += (y + x * 2);
```

- ☐ a. 11
- ☐ b. 9
- ☒ c. 12 ✓
- ☐ d. 10

The correct answer is:

12

What command in Java 2 SDK should be used to compile the following code contained in a file called HelloWorld.java:

```
public class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello World!");  
    }  
}
```

- ☐ a. java HelloWorld
- ☐ b. javac HelloWorld
- ☐ c. java HelloWorld.java
- ☒ d. javac HelloWorld.java ✓

The correct answer is:

`javac HelloWorld.java`

Which primitive type ranges from -2^{31} to $(2^{31})-1$?

- ☐ a. long
- ☐ b. byte
- ☐ c. short
- ☒ d. int ✓

The correct answer is:

`int`

Which of the following keywords is reserved but not used in Java?

- ☐ a. delete
- ☐ b. constant
- ☒ c. const ✓
- ☐ d. unsigned

The correct answer is:
const

Given char c = 'A';

What is the simplest way to convert the character value in c into an int?

- ☐ a. int i = int (c);
- ☒ b. int i = (int) c; ✗
- ☐ c. int i = c;
- ☐ d. int i = Character.getNumericValue(c);

The correct answer is:
int i = c;

Given:

```
int x = 7;
```

```
x <<= 2;
```

What best describes the second line of code?

- ☐ a. It is invalid because there is no such operator as <<=.
- ☐ b. It assigns the value of 2 to x, and shifts it to left by one place.
- ☐ c. It assigns the value to x after shifting 2 to x places left.
- ☒ d. It assigns the value to x after shifting x to 2 places left. ✓

The correct answer is:

It assigns the value to x after shifting x to 2 places left.

What is the default data type of the literal represented as 48.0?

- ☐ a. byte
- ☒ b. int ✗
- ☐ c. float
- ☐ d. double

The correct answer is:

double

Suppose you have four int variables: x, y, z, and result.

Which expression sets the value of z to x if result has a value of 1, and the value of y to x otherwise?

- ☐ a. `x = (result == 1) ? y : z;`
- ☐ b. `x = (result == 1) : y ? z;`
- ☒ c. `x = (result == 1) ? z : y;` ✓
- ☐ d. `x = (result == 1) : z ? y;`

The correct answer is:

`x = (result == 1) ? z : y;`

The primitive type char in Java consists of:

- ☒ a. 8 bits ✖
- ☐ b. 32 bits
- ☐ c. 16 bits
- ☐ d. 24 bits

The correct answer is:

16 bits

Which range of values is valid for all integral types, where n is the number of bits?

- ☐ a. $-2^{n-1} - 1$ to $2^{n-1} - 1$
- ☐ b. 2^{n-1} to $2^{n+1} + 1$
- ☒ c. -2^{n-1} to $2^{n-1} - 1$ ✔
- ☐ d. -2^{n-1} to $2^{n-1} + 1$

The correct answer is:

-2^{n-1} to $2^{n-1} - 1$

What will happen if you try to compile and run the following code?

```
int a = 200;
```

```
byte b = a;
```

```
System.out.println("The value of b is " + b);
```

- ☐ a. Compile-time error
- ☐ b. It will compile but cause an error at runtime
- ☒ c. It will compile and print The value of b is 200 ✖
- ☐ d. It will compile and print The value of b is -56

The correct answer is:

Compile-time error

Which one of the below expression is equivalent to $16 \gg 2$?

- ☐ a. $16 * 4$
- ☒ b. $16 / 4$ ✔
- ☐ c. $16 * 2$
- ☐ d. $16 / 2$

The correct answer is:

$16 / 4$

What is the value of $-32 \% 6$?

- ☐ a. -5
- ☐ b. 5
- ☐ c. 2
- ☒ d. -2 ✓

The correct answer is:
-2

Which is a reserved word in the Java programming language?

- ☐ a. method
- ☐ b. native
- ☐ c. subclasses
- ☒ d. reference ✗

The correct answer is:
native

Which of the following is a non-primitive data type in Java?

- ☒ a. String ✓
- ☐ b. double
- ☐ c. float
- ☐ d. int

The correct answer is:
String

Which of the following variable initialization is invalid?

- ☐ a. double myDouble=12341.509D;
- ☐ b. long myLong=45678L;
- ☐ c. byte myByte=254;
- ☒ d. int myInt = 0xFACE; ✗

The correct answer is:
byte myByte=254;

Which of the following is correct?

- ☐ a. $16 >>> 2$ gives 2
- ☐ b. $4 << 2$ gives 2
- ☐ c. $2 << 1$ gives 2
- ☒ d. $8 >> 2$ gives 2 ✓

The correct answer is:

$8 >> 2$ gives 2

If x, y, and z are all integers, which expression will produce a runtime error?

NOTE: The expressions are always evaluated with all the integers having a value of 1.

- ☐ a. $z = y/x--;$
- ☐ b. $z = x/y--;$
- ☐ c. $z = -x/x;$
- ☒ d. $z = y\%--x$ ✓

The correct answer is:

$z = y\%--x$

Given the following code snippet:

```
double sum = 10.0, price=100;
```

```
sum += price>=100 ? price*1.1 : price;
```

What value is placed in sum? Choose the most appropriate answer.

- ☐ a. 100
- ☒ b. 120 ✓
- ☐ c. 90
- ☐ d. 110

The correct answer is:

120

Which one of the following primitive type conversion is permitted implicitly without using casting?

- ☐ a. long to int
- ☒ b. float to double ✓
- ☐ c. double to long
- ☐ d. double to float

The correct answer is:

float to double

What is the numerical range of a char?

- ☐ a. $-(2^{15})$ to $(2^{15}) - 1$
- ☐ b. 0 to 65535
- ☒ c. 0 to 32767 ✖
- ☐ d. -128 to 127

The correct answer is:
0 to 65535

Which of the following is a valid declaration of String?

- ☐ a. String S2=null;
- ☐ b. String S4=(String)\ufeed;
- ☒ c. String S3 = (String) 'face'; ✖
- ☐ d. String S1='null';

The correct answer is: