

Midterm (Part B)

Started: Oct 8 at 6:56pm

Quiz Instructions

This midterm exam module contains 20 multiple choice questions, worth 2 points each, and has a time limit of 30 minutes.

The exam is **individual** only, and **closed** to ALL resources. You may NOT use any books, notes, course materials, nor any other resources (whether from the Internet or otherwise).

By submitting your answers, you agree and consent to the following:

**“I PLEDGE THAT THIS ASSIGNMENT HAS BEEN COMPLETED
IN COMPLIANCE WITH THE GRADUATE HONOR CODE
AND THAT I HAVE NEITHER GIVEN NOR RECEIVED
ANY UNAUTHORIZED AID ON THIS ASSIGNMENT.”**

Question 1

2 pts

Which code is preferable:



```
if (x == 5) {  
    // do something  
} else { // x != 5  
    // do something else  
}
```



```
if (x == 5) {  
    // do something  
} else if (x != 5) {  
    // do something else  
}
```



```
if (x == 5) {  
    // do something  
} else (x != 5) {  
    // do something else  
}
```

Question 2**2 pts**

Which one of the following memory types provides storage that does NOT persist without electricity?

- ☐ traditional hard disk drive
- ☐ solid state drive
- ☐ RAM
- ☒ flash drive

Question 3**2 pts**

A class (ClassOne) is considered to have a dependency on another class (ClassTwo) under which of the following conditions?

- ☒ ClassOne uses objects of ClassTwo.
- ☐ ClassTwo uses objects of ClassOne.
- ☐ ClassOne and ClassTwo both use a third class ClassThree.
- ☐ The public interfaces of both classes are cohesive.

Question 4**2 pts**

When an array `myArray` is only partially filled, how can the programmer keep track of the current number of elements?

- ☒ maintain a companion variable that stores the current number of elements
- ☐ access `myArray.length()`
- ☐ access `myArray.length() - 1`

☐ access `myArray.currentElements()`

Question 5**2 pts**

What is the name of the = operator in Java?

- ☐ identity
- ☒ assignment
- ☐ inequality
- ☐ equality

Question 6**2 pts**

Which one of the following statements is a valid initialization of an array named somearray with five elements?

- ☐ `int[0] somearray = { 0, 1, 2, 3, 4 };`
- ☐ `int somearray[] = { 0, 1, 2, 3, 4, 5 };`
- ☒ `int[] somearray = { 0, 1, 2, 3, 4 };`
- ☐ `int somearray[] = [0, 1, 2, 3, 4];`

Question 7**2 pts**

Assuming the variables are declared as floating point types, which is a correct representation of the given mathematical expression in Java?

$$\frac{a+b}{2}$$



(a + b) / 2



a + b / 2



a + (b / 2)



a + b % 2

Question 8

2 pts

Which statement best describes the portability characteristic of Java?



There are only small differences between the Java programming language on different operating systems.



It is easy to change a Java program so that it will work on different operating systems.



The same Java compiler can be used on many operating systems.



The same already-compiled Java programs will run on Windows, UNIX, Linux, or Macintosh operating systems without any change.

Question 9

2 pts

In a switch statement, if a break statement is missing



the statement will not compile

- ☐ the default case is automatically executed
- ☒ execution falls through to subsequent branches until a break statement is reached
- ☐ the break happens at the end of each branch by default

Question 10**2 pts**

Each object of a class has its own set of _____ .

- ☐ constructors
- ☐ methods
- ☒ instance variables
- ☐ classes

Question 11**2 pts**

Assume the following variable has been declared and given values as shown: String name = "Mamey, Jean"; Which statement will print the name as "Jean Mamey"?

- ☐ `System.out.print(name.substring(8, 4) + " " + name.substring(1, 5));`
- ☐ `System.out.print(name.substring(8) + " " + name.substring(1, 4));`
- ☒ `System.out.print(name.substring(7) + " " + name.substring(0, 5));`
- ☐ `System.out.print(name.substring(2) + " " + name.substring(1));`

Question 12**2 pts**

How many times will the following loop run?

```
int i = 0;
while (i < 10) {
    System.out.println(i);
    i++;
}
```

- ☐ 0
- ☒ 10
- ☐ 9
- ☐ 8

Question 13**2 pts**

What is the value of `area` after the following code.

```
int width;
int height = width;
width = 40;
int area = height * width;
```

- ☐ 1600
- ☐ no value; there is a runtime error
- ☐ 0
- ☒ no value; there is a compile-time error

Question 14**2 pts**

Another name for field is:

- ☒ instance variable
- ☐ local variable
- ☐ static variable
- ☐ parameter

Question 15**2 pts**

Which of the following statements about constants is correct?

- ☐ The data stored inside a constant can be changed using an assignment statement.
- ☒ You can make a primitive or immutable variable constant by using the final reserved word when declaring it.
- ☐ Constants are written using capital letters because the compiler ignores constants declared in small letters.
- ☐ Constant variables can only be changed through the Math library.

Question 16**2 pts**

What terminology describes a method that returns information about an object and does not change the object's internal data?

- ☐ void
- ☒ accessor
- ☐ public
- ☐ mutator

Question 17**2 pts**

Which of the following should be used when you need to ask a user to enter one data item, then repeat the prompt if the data is invalid?

- ☐ enhanced for loop
- ☐ for loop
- ☒ do while
- ☐ while loop

Question 18

2 pts

Consider the following code to declare a constructor for the Player class. (Assume there is a String instance variable called `name`.)

```
public void Player(String playerName) {  
    name = playerName;  
}
```

What is wrong with this constructor?

- ☐ Nothing; the code successfully instantiates a Player object when called.
- ☐ The return type should be declared as Player, not void.
- ☐ Constructors cannot take parameters.
- ☒ The code is valid but does not act as a constructor.

Question 19

2 pts

Which class category has static methods and constants, but no objects?

- ☒ Utility class
- ☐ Actor class
- ☐ Concept class

- ☐ Real-life entity abstraction

Question 20**2 pts**

Consider the following declaration of the local variable `myArrayList`.

```
List<String> myArrayList = new ArrayList<>();
```

If I execute the statement `myArrayList = new ArrayList<>();` somewhere after this declaration but still in scope of the variable, will any stack values change?

- ☐ no
- ☒ yes

Quiz saved at 7:18pm

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