

# Midterm

**Due** Oct 14, 2021 at 11:59pm**Points** 150**Questions** 31**Available** Oct 14, 2021 at 9am - Oct 14, 2021 at 11:59pm 14 hours and 59 minutes**Time Limit** 150 Minutes

This quiz was locked Oct 14, 2021 at 11:59pm.

## Attempt History

	Attempt	Time	Score
LATEST	<a href="#">Attempt 1</a>	147 minutes	145 out of 150

Score for this quiz: **145** out of 150

Submitted Oct 14, 2021 at 7:59pm

This attempt took 147 minutes.

### Question 1

**4 / 4 pts**

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int x=10;  
4         int y=25;  
5         int z=x+y;  
6  
7         System.out.println("Sum of x+y = " + z);  
8     }  
9 }
```

What is the correct output line for this code?

**Correct!**

- ☒ Sum of x+y = 35
- ☐ Sum of x+y = z
- ☐ Sum of x+y = 1025

### Question 2

**4 / 4 pts**

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int x=10;  
4         int y=25;  
5         int z=x+y;  
6  
7         System.out.println("Sum of x+y = " + x + y);  
8     }  
9 }  
10
```

What is the correct output line for this code?

- ☐ Sum of x+y = 35
- ☐ Sum of x+y = z
- ☒ Sum of x+y = 1025

Correct!

### Question 3

5 / 5 pts

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int x=1;  
4         int y=25;  
5         if (x+4 > 10)  
6             System.out.println("Output 1");  
7         else  
8             System.out.println("Output 2");  
9  
10  
11     }  
12 }
```

What output is generated by this program?

- ☐ Output 1
- ☒ Output 2
- ☐ Both are activated
- ☐ Program will fail to compile

Correct!

## Question 4

4 / 4 pts

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int score=71;  
4         String grade;  
5         if (score >= 90)  
6             grade = "A";  
7         else if (score >=80)  
8             grade = "B";  
9         else if (score >=70)  
10            grade = "C";  
11        else if (score >=60)  
12            grade = "D";  
13        else  
14            grade = "F";  
15  
16        System.out.println("Your grade is: " + grade);  
17    }  
18 }  
19 }  
20 }
```

The student's grade will be:

☐ A☐ B☒ C☐ D☐ F

Correct!

## Question 5

0 / 5 pts

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int score=71;  
4         String grade;  
5         if (score >= 90)  
6             grade = "A";  
7         else if (score >=80)  
8             grade = "B";  
9         else if (score >=70)  
10            grade = "C";  
11        else if (score >=60)  
12            grade = "D";  
13        else  
14            grade = "F";  
15  
16        System.out.println("Your grade is: " + grade);  
17    }  
18 }  
19 }  
20 }
```

We could change the datatype of grade from String to char in this program and it would not cause any problems storing grades like A B C D or F assuming we change the " to ' ('A' instead of "A")

Correct Answer

- ☐ True
- ☐ False
- ☐ True, even if we changed "A" to 'A+' to include the + and - brackets.

You Answered

- ☒ False, we cannot output char datatypes on the console(terminal)

## Question 6

4 / 4 pts

A String literal is defined with \_\_\_\_\_ quotes and a char literal with \_\_\_\_\_ quotes

- ☐ both use double quotes
- ☐ single,double
- ☒ double,single

Correct!

☐ both use single quotes

**Question 7****3 / 3 pts**

System.out.println(10/4); Will produce

☐ 2.5

☒ 2

**Correct!****Question 8****4 / 4 pts**

System.out.println((10/3) \* 4); Will produce

☐ 12.0

☒ 12

☐ 13

☐ 13.33

**Correct!****Question 9****3 / 3 pts**

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int[] arr1 = { 1,2,3,4,5 };  
4  
5         System.out.println(arr1[2]);  
6  
7     }  
8 }  
9 }
```

What value is output by this code?

☐ 1

☐ 2

☒ 3

☐ 4

☐ 5

Correct!

## Question 10

4 / 4 pts

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int[] arr1 = { 1,2,3,4,5 };  
4  
5         int x = arr1[3] / 2;  
6         System.out.println(x);  
7  
8     }  
9 }  
10 }
```

What value will be in x when the program outputs?

☒ 2

☐ 2.0

☐ 1

Correct!

☐ 1.0**Question 11****4 / 4 pts**

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         double[] arr1 = { 1,2,3,4,5 };  
4  
5         double x = arr1[3] / 2;  
6         double y = 13/4 + arr1[4] + x;  
7         System.out.println(y);  
8  
9     }  
10 }  
11 }
```

What is the output of y?

**Correct!**☒ 10.0☐ 10☐ 10.25☐ 11**Question 12****4 / 4 pts**

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         double[] arr1 = { 1,2,3,4,5 };  
4  
5         for (int i=0 ; i<arr1.length ; ++i)  
6             System.out.print(arr1[i] + " ");  
7  
8     }  
9 }  
10 }
```

What is the output of y?

**Correct!**☒ 1.0 2.0 3.0 4.0 5.0

☐ 1 2 3 4 5

### Question 13

5 / 5 pts

```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         double[] arr1 = { 1,2,3,4,5 };  
4         double[] arr2 = {7,8,9,10,11};  
5  
6         double sum1,sum2;  
7         sum1 = arr1[1] + arr1[3];  
8         sum2 = arr1[4] * arr2[0];  
9         if (sum2 > sum1)  
10            for (int i=0 ; i<arr2.length ; ++i)  
11                System.out.print(arr2.length);  
12  
13        else  
14            for (int i=0 ; i<arr2.length ; ++i)  
15                System.out.print(arr2[i] + " ");  
16  
17    }  
18 }  
19 }
```

Decide which loop will be triggered and what output will be shown by the program?

☐ 7891011

☐ 5 5 5 5 5

☒ 55555

☐ 12345

Correct!

### Question 14

5 / 5 pts



```
1 public class MyClass {  
2     public static void main(String args[]) {  
3         int count = 0;  
4         while (count < 10)  
5             System.out.print("Im running!");  
6     }  
7 }  
8 }
```

How many iterations will this loop run?

☐ it will not run

☐ 9

☐ 10

☒ infinite

Correct!

### Question 15

4 / 4 pts

What is the length of this array? `String[] myarr = {"Alpha", "Beta", "charlie"};`

☒ 3

☐ 2

☐ 1

Correct!

### Question 16

4 / 4 pts

An 'indexoutofbounds' error can be identified by the javac compiler before the program will ever run

**Correct!**☐ True☒ False**Question 17****4 / 4 pts**

An 'indexoutofbounds' error is what type of error?

☐ compile☒ runtime**Correct!****Question 18****4 / 4 pts**

A missing ; is an example of what type of error?

☒ syntax☐ runtime☐ logic☐ comical**Correct!****Question 19****5 / 5 pts**

What is the difference between a syntax error and a logical error?

**Correct!**

☐ The java compiler can identify both syntax errors and logical errors

☒ The java compiler will identify a syntax error but not a logical error

☐

The java compiler can identify logical errors only, syntax errors cannot be detected

**Question 20****4 / 4 pts**

Which type of loop provides its own counter variable?

☐ do

☐ while

☒ for

**Correct!****Question 21****4 / 4 pts**

Which is the correct command to **compile** your program?

☐ java

☐ javadoc

☒ javac

☐ gogojava

**Correct!**

**Question 22****4 / 4 pts**

Which is the correct command to **execute** your program?

**Correct!**

- ☒ java
- ☐ javadoc
- ☐ javac
- ☐ gogojava

**Question 23****4 / 4 pts**

Assuming we have a Scanner object named 'kbd', which command will pull in the next single String token on the command prompt?

**Correct!**

- ☐ kbd.nextString()
- ☐ kbd.nextInt()
- ☐ kbd.nextLine()
- ☒ kbd.next()

**Question 24****4 / 4 pts**

An array can be resized after it has been declared

- ☐ True

**Correct!**☒ False**Question 25****4 / 4 pts**

What is the command to make a variable into a constant?

**Correct!**☒ final☐ block☐ int☐ last**Question 26****4 / 4 pts**

Assume that sitting in your directory are two files:

Hello.java

Hello.class

Which of these is considered the source file?

**Correct!**☒ Hello.java☐ Hello.class**Question 27****4 / 4 pts**

What type of error will cause this message?

*missing '}' at line 99*

**Correct!**

- ☒ syntax
- ☐ logical
- ☐ runtime

### Question 28

4 / 4 pts

Constants can normally be identified in the source code by the following convention:

- ☐ they show as bold in the source code
- ☐ they are underlined in our source code
- ☐ they automatically change color
- ☒ they are normally all capitalized in their name

**Correct!**

### Question 29

15 / 15 pts

Describe in your own words what each type of error is and what can cause it.

Also, show an example of each type of error

Logical,syntax,runtime

Your Answer:

逻辑:

这与程序本身无关，程序可以运行，但无法给出您想要的结果。它可以由计算机编译和执行，因为计算机不知道它正在解决什么问题，它只是执行那里的代码。

例如，您想知道 10 除以 2 会得到多少，但您输入的是  $10*2$  而不是  $10/2$ 。

句法:

编译时可能会发现错误，它只是表明代码没有以正确的方式给出。就像文章中的语法错误一样。意思是你告诉电脑的方式不准确，电脑可能被它搞糊涂了，无法执行。

例如，您只是忘记了分号或错过了行中的括号。

运行:

错误发生在给定命令正在运行时，但计算机无法解决。计算机在运行过程中可能会遇到无法解决的问题。就像你在做数学作业一样，但矛盾的条件阻止你解决它。

例如，您要求计算机计算  $10/0=?$  或在数组大小 5 中搜索数组 [9]。

### Question 30

10 / 10 pts

```
1 import java.util.Scanner;
2 public class MyClass {
3     public static void main(String args[]) {
4         Scanner keyboard = new Scanner(System.in);
5         System.out.print("Input your first name and age on the same line separated by a space (i.e Tom 25");
6         int age = keyboard.nextInt();
7         String name = keyboard.next();
8
9         System.out.println("Hello " + name + " I see you are " + age);
10    }
11 }
```

There is a logical error in this program, identify and explain which lines are affected by it and what will happen assuming the user follows the programs instructions perfectly.

Your Answer:

第六行和第七行需要交换。

在这个例子中，指令要求用户首先输入他们的名字，但程序可能会将第一个变量识别为他们的年龄。但是，Int 不能存储字符串变量，它会停止

程序。

因此，该程序无法运行。

### Question 31

10 / 10 pts

```
1  import java.util.Scanner;
2  public class GenWhat {
3      public static void main(String args[]) {
4          Scanner key = new Scanner(System.in);
5          int yob;
6          System.out.print("Enter your year of birth as a 4 digit number: ");
7          yob = key.nextInt();
8          String gen = "?"
9          if (yob <= 1924)
10             gen = "Greatest Generation";
11         else if (yob >= 1925 && yob <= 1945)
12             gen = "Silent Generation";
13         else if (yob >= 1946 && yob <= 1964)
14             gen = "Ok, Boomer";
15         else if (yob >= 1965 && yod <= 1980)
16             gen = "You remember when MTV played music as a member of Gen X";
17         else if (yob >= 1981 && yob <= 1996)
18             gen = "Millennial";
19         else if (yob >= 1997)
20             gen = "Gen Z Zoomer"
21
22         System.out.println("Your generation is: " + gen);
23     }
24 }
25 }
```

There are three(3) syntax errors in this code above, identify which lines they are on and indicate what is causing the syntax errors

Your Answer:

第8行：它忘记了（“?”;）后的分号，这将导致计算机无法编译

第 20 行：它忘记了 Zoomer("Zoomer;") 后面的分号，这将导致计算机无法编译。

第 15 行：(yod) 应该是 (yob)，因为程序找不到 yod 的声明，程序将无法编译。

Quiz Score: **145** out of 150