

## Computer Science (EOY) Final Exam

1 Which of the following is the proper way to format a Boolean OR statement in JAVA?

- A `if(A == 2 || B > 5){`
- B `if(A == 2 !! B > 5){`
- C `if(A == 2 && B > 5){`
- D `if(A == 2 or B > 5){`

2 Which is the proper format for a Boolean AND statement in JAVA?

- A `if(A == 2 and B > 5){`
- B `if(A == 2 & B > 5){`
- C `if(A == 2 && B > 5){`
- D `if(A == 2 ++ B > 5){`

3 Analyze this segment of program code:

```
if(A == 1){  
    System.out.println(A);  
}else if(A >1 && A <=20){  
    A = A + 5;  
}else if(A > 20){  
    A = A * 5;  
}else{  
    System.out.println("Invalid Value of A");  
}  
System.out.println(A);
```

"A" has been assigned an initial value of 20. What is the final value of "A"?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

4 Analyze this segment of program code:

```
if(A == 1){  
    System.out.println(A);  
}else if(A >1 && A <=20){  
    A = A + 5;  
}else if(A > 20){  
    A = A * 5;  
}else{  
    System.out.println("Invalid Value of A");  
}  
System.out.println(A);
```

"A" has been assigned an initial value of 25. What is the final value of "A"?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

5 What programming concept is illustrated below:

```
int fact(int n) {  
    int result;  
    if(n==0 || n==1)  
        return 1;  
  
    result = fact(n-1) * n;  
    return result;  
}
```

- A recursion
- B factorisation
- C repetition
- D factoration

6 Review the Python program code below...

```
01) #Programmer Name: Eric Evans, M.Ed.  
02) #Program Name: 02 - Hello Variable  
03) #Program Description: Outputs assigned information using only variables.  
04) #  
05) firstWord = "Hello"  
06) secondWord = "World"  
07) space = ' '  
08) firstAddend = 1  
09) firstProblemSum = firstAddend + firstAddend  
10) secondAddend = firstProblemSum  
11) secondProblemSum = secondAddend + secondAddend  
12) thirdAddend = secondProblemSum  
13) thirdProblemSum = thirdAddend + thirdAddend  
14) #  
15) firstProblemSum = str(firstProblemSum)  
16) firstAddend = str(firstAddend)  
17) secondProblemSum = str(secondProblemSum)  
18) secondAddend = str(secondAddend)  
19) thirdProblemSum = str(thirdProblemSum)  
20) thirdAddend = str(thirdAddend)  
21) #  
22) print(firstWord + space + secondWord)  
23) print(firstAddend + " + " + firstAddend + " = " + firstProblemSum)  
24) print(secondAddend + " + " + secondAddend + " = " + secondProblemSum)  
25) print(thirdAddend + " + " + thirdAddend + " = " + thirdProblemSum)
```

**Question)** What type of code are lines 1, 2, 3, 4, 14, & 21?

- A declarations
- B comments
- C instructions
- D snippets

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18) secondAddend = str(secondAddend)
19) thirdProblemSum = str(thirdProblemSum)
20) thirdAddend = str(thirdAddend)
21) #
22) print(firstWord + space + secondWord)
23) print(firstAddend + " + " + firstAddend + " = " + firstProblemSum)
24) print(secondAddend + " + " + secondAddend + " = " + secondProblemSum)
25) print(thirdAddend + " + " + thirdAddend + " = " + thirdProblemSum)
```

**Question)** What is the value of variable thirdProblemSum on line 13?

- A 1
- B 2
- C 4
- D 8

8 Review the Python program code below...

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20) thirdAddend = str(thirdAddend)
21) #
22) print(firstWord + space + secondWord)
23) print(firstAddend + " + " + firstAddend + " = " + firstProblemSum)
24) print(secondAddend + " + " + secondAddend + " = " + secondProblemSum)
25) print(thirdAddend + " + " + thirdAddend + " = " + thirdProblemSum)
```

**Question)** What types variable are firstProblemSum (line 09), secondAddend (line 10), secondProblemSum (line 11), thirdAddend (line 12), and thirdProblemSum (line 13) considered?

- A float
- B double
- C integer
- D string

9 Review the Python program code below...

```
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22) print(firstWord + space + secondWord)
23) print(firstAddend + " + " + firstAddend + " = " + firstProblemSum)
24) print(secondAddend + " + " + secondAddend + " = " + secondProblemSum)
25) print(thirdAddend + " + " + thirdAddend + " = " + thirdProblemSum)
```

**Question)** Lines 15 through 20 are redefining the variables firstProblemSum (line 15), firstAddend, (line 16), secondProblemSum (line 17), secondAddend (line 18), thirdProblemSum (line 19), and thirdAddend (line 20) using what process?

- A typing
- B casting
- C boolean
- D staging

**10** Review the Python program code below...

```
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19) thirdProblemSum = str(thirdProblemSum)  
20) thirdAddend = str(thirdAddend)  
21) #  
22) print(firstWord + space + secondWord)  
23) print(firstAddend + " + " + firstAddend + " = " + firstProblemSum)  
24) print(secondAddend + " + " + secondAddend + " = " + secondProblemSum)  
25) print(thirdAddend + " + " + thirdAddend + " = " + thirdProblemSum)
```

**Question)** What is the output of this code?



**A** Hello World

$$1 + 1 = 2$$

$$2 + 2 = 4$$

$$4 + 4 = 8$$

**B** Hello World

$$1 + 1 = 11$$

$$2 + 2 = 22$$

$$4 + 4 = 44$$

**C** olleH dlroW

$$2 = 1 + 1$$

$$4 = 2 + 2$$

$$8 = 4 + 4$$

**D** olleH dlroW

$$11 = 1 + 1$$

$$22 = 2 + 2$$

$$44 = 4 + 4$$

- 11** Languages that are farther away from machine assembly language typically have more functionality than languages that are closer to machine assembly language.
- A** True  
**B** False
- 12** Languages that are farther away from machine assembly language are typically easier to learn than languages that are closer to machine assembly language.
- A** True  
**B** False
- 13** Python does **NOT** support object-oriented programming concepts.
- A** True  
**B** False
- 14** JAVA does **NOT** support object-oriented programming concepts.
- A** True  
**B** False
- 15** What Boolean argument is represented by this truth table?

<b>A</b>	<b>B</b>	<b>Result</b>
TRUE	TRUE	TRUE
TRUE	FALSE	FALSE
FALSE	TRUE	FALSE
FALSE	FALSE	FALSE

- A** A || B  
**B** A && B  
**C** A !! B  
**D** A !& B

**16** What Boolean argument is represented by this truth table?

<b>A</b>	<b>B</b>	<b>Result</b>
TRUE	TRUE	TRUE
TRUE	FALSE	TRUE
FALSE	TRUE	TRUE
FALSE	FALSE	FALSE

- A** A && B
- B** A || B
- C** A !! B
- D** A NOR B

**17** Which of the following is a JAVA representation of the following plain language statement:

*if A is equal to B and B is less than C and C is greater than D print the word HELLO on the screen.*

- A**

```
if(A = B & B < C & C > D){
    System.out.println("HELLO");
}
```
- B**

```
if(A == B && B < C && C > D){
    System.out.println("HELLO");
}
```
- C**

```
if(A == B && B > C && C > D){
    System.out.println("HELLO");
}
```
- D**

```
if(A == B && B > C && C < D){
    System.out.println("HELLO");
}
```

**18** Which of the following is a JAVA representation of the following plain language statement:

*if A is equal to B and B is equal to C and C is not equal to D print the word WOW on the screen.*

- A**

```
if(A == B && B == C && C != D){  
    System.out.println("WOW");  
}
```
- B**

```
if(A = B && B = C && C ! D){  
    System.out.println("WOW");  
}
```
- C**

```
if(A == B & B == C & C != D){  
    System.out.println("WOW");  
}
```
- D**

```
if(A = B & B = C & C ! D){  
    System.out.println("WOW");  
}
```

- 19** Which of the following is a JAVA representation of the following plain language statement:

*While A is less than 5, display a count up by 1 starting at 0.*

- A**

```
do(int i=0; i<5; i++){  
    System.out.println(i);  
}
```
- B**

```
for(int i=1; i<6; i++){  
    System.out.println(i);  
}
```
- C**

```
while(int i=0; i<5; i++){  
    System.out.println(i);  
}
```
- D**

```
for(int i=0; i<5; i++){  
    System.out.println(i);  
}
```

- 20** Using the internet, research which programming language James Gosling is credited with creating.



- A** Python
- B** C++
- C** Ruby
- D** JAVA