

Tutorial: Teaching Week 1

- Operators (including operator precedence)
- Control structures: selection and repetition
- The **break** statement
- Basic Java programs
- Simple problem specifications

Question 1

- What is the output of this code fragment?

```
int x = 5;
if (x < 10) {
    System.out.println("less than 10");
} else if (x > 10) {
    System.out.println("greater than 10");
} else {
    System.out.println("equals to 10 ");
}
```

Question 2

- What is the output of this code fragment?

```
int x = 30;
if (x > 10) {
    System.out.println("greater than 10");
} else if (x > 20) {
    System.out.println("greater than 20");
} else {
    System.out.println("no");
}
```

Question 3

- What is the output of this code fragment?

```
int i=4, j=5, k=6;
if (j > i) {
    if (j < k) {
        if (j <= j) {
            if (i == 4) {
                System.out.println("yes");
            } else {
                System.out.println("no");
            }
        }
    }
}
```

Question 4

- What is the output of this code fragment?

```
for (int i = 0; i < 3; i++){  
    switch (i) {  
        case 0: {  
            System.out.println("zero");  
            break;  
        }  
        case 1 : {  
            System.out.println("one");  
            break;  
        }  
        default : {  
            System.out.println("none");  
            break;  
        }  
    }  
}
```

Question 5

- What is the output of this code fragment?

```
for (int i = 0; i < 3; i++) {  
    switch (i) {  
        case 0: {  
            System.out.println("zero");  
        }  
        case 1 : {  
            System.out.println("one");  
        }  
        default : {  
            System.out.println("none");  
        }  
    }  
}
```

Question 6

- What is the output of this code fragment?

```
for (int i = 0; i < 3; i++){  
    switch (i) {  
        case 1 : {  
            System.out.println("one");  
        }  
        case 0: {  
            System.out.println("zero");  
        }  
        default : {  
            System.out.println("none");  
        }  
    }  
}
```

Questions 7+8

- Write a Java program that calculates the sum of integers in the range **1** to **100** (*inclusive*).
- Write a Java program that produces a multiplication table, showing the results of multiplying the integers **1** through to **3**. The output of your program should look as follows:

| | | |
|---|---|---|
| 1 | 2 | 3 |
| 2 | 4 | 6 |
| 3 | 6 | 9 |

Questions 9+10

- What will be printed out using the following code?

```
class Question2c {  
    public static void main(String[] args) {  
        int i=8, j=9;  
        boolean test;  
        test=i>7&&j-- > i++;  
        System.out.println(i);  
        System.out.println(j);  
        System.out.println(test);  
    }  
}
```

- Write a block of code that calculates the sum of all the integers divisible by 3, in the range 1 to 99 (*inclusive*). You are not required to write a complete program.



These are past exam questions.