

Conditional Execution in Python and Java

Problem statement: Assume the days of the week are numbered 0,1,2,3,4,5,6 from Sunday to Saturday. Write a program that asks the user for a number. The program will print out the corresponding day. If the user enters a number outside of the valid range of 0-6 an error message should be printed.

Python solution: days.py

```
1
2 n = int(input("Please enter the number of your day\n "))
3
4 print("%s is... " % n)
5
6 if n == 0:
7     print("Sunday")
8 elif n == 1:
9     print("Monday")
10 elif n == 2:
11     print("Tuesday")
12 elif n == 3:
13     print("Wednesday")
14 elif n == 4:
15     print("Thursday")
16 elif n == 5:
17     print("Friday")
18 elif n == 6:
19     print("Saturday")
20 else:
21     print("not a valid day number")
22
23
```

Java solution: Days.java

```
1 import java.util.Scanner;
2
3 public class Days{
4     public static void main ( String [] args ) {
5         Scanner in = new Scanner (System.in) ;
6
7         System.out.print("Please enter the number" +
8             " of your day\n ");
9
10        int n = in.nextInt();
11
12        System.out.println( n + " is ... ");
13        if (n == 0 )
14            System.out.println("Sunday");
15        else if ( n == 1 )
16            System.out.println("Monday");
17        else if ( n == 2 )
18            System.out.println("Tuesday");
19        else if ( n == 3 )
20            System.out.println("Wednesday");
21        else if ( n == 4 )
22            System.out.println("Thursday");
23        else if ( n == 5 )
24            System.out.println("Friday");
25        else if ( n == 6 )
26            System.out.println("Saturday");
27        else
28            System.out.println("not a valid day number");
29    }
30 }
```

Questions:

1. How does the program start in Python and in Java (i.e., which lines do we need to have before we can start solving the actual problem)?
2. What is the format/syntax of the statement that allows for conditional execution in each language? Include all the details.
3. How is the user prompted to enter a value and how is that value saved into a variable?
4. What statements are used to print text to the screen/console?
5. Some lines in the Java program end with semicolons. Can you determine the pattern? When do we need the semicolons?
6. What is the role of indentation in both programs? Could we remove the indentation? What is the role of blank lines in both programs? Could we remove the blank lines?