Warm–up questions

What is the most appropriate data type to represent the following quantities?

a) Your grade point average
b) How many students go to Pitt
c) Your middle initial
d) A city name
e) π

Random value

Math.random()

Random value

Math.random()*100

Random value

```
(int)(Math.random()*100)
```

Random value

```
(int)(Math.random()*100)+1
```

Average program

...

switch – case analysis

```
public class SwitchDemo {
    public static void main(String[] args) {

        int month = 8;
        switch (month) {
            case 1:  System.out.println("January"); break;
            case 2:  System.out.println("February"); break;
            case 3:  System.out.println("March"); break;
            case 4:  System.out.println("April"); break;
            case 5:  System.out.println("May"); break;
            case 6:  System.out.println("June"); break;
            case 7:  System.out.println("July"); break;
            case 8:  System.out.println("August"); break;
            case 9:  System.out.println("September"); break;
            case 10: System.out.println("October"); break;
            case 11: System.out.println("November"); break;
            case 12: System.out.println("December"); break;
            default: System.out.println("Not a month!"); break;
        }
    }
}
```

```
import tio.*
class Test {

    int input = Console.in.readInt();

    int output = 1;
    switch(input) {
        case 2:
            output = 3;
            break;
        case 3:
            output = 4;
        case 4:
            output = input + 5;
        case 5:
            output = output  + 1;
            break;
        default:
            System.out.println(“Input unknown”);
    }

    System.out.println(“The output is ” + output);
}
```

```
public class SwitchDemo2 {
    public static void main(String[] args) {

        int month = 2;
        int year = 2000;
        int numDays = 0;

        switch (month) {
            case 1:
            case 3:
            case 5:
            case 7:
            case 8:
            case 10:
            case 12:
                numDays = 31;
                break;
            case 4:
            case 6:
            case 9:
            case 11:
                numDays = 30;
                break;
            case 2:
                if ( ((year % 4 == 0) && !(year % 100 == 0)) || (year % 400 == 0) )
                    numDays = 29;
                else
                    numDays = 28;
                break;
            default:
                numDays = 0;
                break;
        }
        System.out.println("Number of Days = " + numDays);
    }
}
```