

## Skills Assessment Test Solutions

There are many possible solutions to the exercises, this document merely gives one solution to help you understand the underlying principles. If you have questions (or doubts) about the code, please feel free to ask in class.

```
public class Number1 {
//SOLUTION TO 1)
    public static void main(String[] args){
        System.out.println("Hello World!");
    }
}

class Number2
{
//SOLUTION TO 2)
    public static void main(String[] args)
    {
        //The for loop begins x at 1 and increments it up to and
including 15
        for (int x = 1; x <= 15; x++)
        {
            //Use the code from #3
            if ((x % 3) != 0 && (x % 5) != 0)
            {
                System.out.println(x);
            } else {
                if (x % 3 == 0)
                {
                    System.out.print("Div3");
                }
                if (x % 5 == 0)
                {
                    System.out.print("Div5");
                }
                System.out.println();
            }
        }
    }
}
```

```

class Number3a
{
//SOLUTION TO 3) I
    public static void main (String[] args)
    {
        //For i = 1, 2... 6 this code will print exactly one line of the
figure
        for (int i = 1; i <= 6; i ++)
        {
            //The j for loop will print "12..." up until i
            for (int j = 1; j <= i; j ++)
            {
                //Some people used System.out.println(...); here, but
that will print out
                //Each number on a separate line which is incorrect.
Use System.out.print(...);
                System.out.print(j);
            }
            System.out.println();
        }
    }
}

```

```

class Number3b
{
//SOLUTION TO 3b) USING ONE LOOP
    public static void main(String[] args)
    {
        String s = "";
        for (int loop = 1; loop <= 6; loop ++)
        {
            //s is "1", then "12", then "123"...
            s += loop;
            System.out.println(s);
        }
    }
}

```

```

public class Number4
{
//SOLUTION TO NUMBER 4

    public static void main(String[] args)
    {
        //You should write a method that does the reduction. This method
is given below.
        int[] a = {1,2,6,5,9};

        //SOLUTION TO PART a):
        a = reduce(a);

        //SOLUTION TO PART b):
        a = reduce(a);

        //SOLUTION TO PART c):

```

```

        while (a.length > 1)
        {
            a = reduce(a);
        }
    }

    public static int[] reduce(int[] a)
    {
        //We can't reduce it if it's a single element
        if (a.length <= 1)
        {
            return a;
        } else {
            int[] toReturn = new int[a.length - 1];

            for (int loop = 0; loop < toReturn.length; loop++)
            {
                toReturn[loop] = a[loop] + a[loop + 1];
            }
            return toReturn;
        }
    }
}

```

```

import java.util.*;

public class Number5
{
    //SOLUTION TO NUMBER 5

    public static void main(String[] args)
    {
        int number = readInt();
        int sum=0;

        while (number > 0)
        {
            sum += number%10;

            number = number/10;
        }

        System.out.println(sum);
    }

    static int readInt()
    {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter an integer: ");

        return scanner.nextInt();
    }
}

```