

# Object Oriented Programming - Handout 2

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## Exercise 2.1

Code:

```
public class UniqueNumbers {
    public static void main(String[] args) {
        int count = 0;
        for (int i = 1; i <= 5; i++) {
            for (int j = 1; j <= 5; j++) {
                for (int k = 1; k <= 5; k++) {
                    if (i != j && i != k && j != k) {
                        System.out.println(i * 100 + j * 10 + k);
                        count++;
                    }
                }
            }
        }
        System.out.println("Total unique 3-digit numbers: " + count);
    }
}
```

Execution:

```
konradwojda@konradwojda:~/studia/oop-hyu/02-hw$ java UniqueNumbers
123
124
125
132
134
135
142
143
145
152
153
154
213
214
215
231
234
235
241
```

243  
245  
251  
253  
254  
312  
314  
315  
321  
324  
325  
341  
342  
345  
351  
352  
354  
412  
413  
415  
421  
423  
425  
431  
432  
435  
451  
452  
453  
512  
513  
514  
521  
523  
524  
531  
532  
534  
541  
542  
543  
Total unique 3-digit numbers: 60

## Exercise 2.2

Code:

```

import java.util.Scanner;

class CommonDigitCheck {
    public static boolean hasCommonDigit(int num1, int num2) {
        if (num1 < 0 || num1 > 1000 || num2 < 0 || num2 > 1000) {
            return false;
        }
        String strNum1 = Integer.toString(num1);
        String strNum2 = Integer.toString(num2);

        for (char digit : strNum1.toCharArray()) {
            if (strNum2.indexOf(digit) != -1) {
                return true;
            }
        }
        return false;
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter first number: ");
        int num1 = scanner.nextInt();
        System.out.print("Enter second number: ");
        int num2 = scanner.nextInt();
        System.out.println(hasCommonDigit(num1, num2));
        scanner.close();
    }
}

```

Execution:

```

konradwojda@konradwojda:~/studia/oop-hyu/02-hw$ java CommonDigitCheck
Enter first number: 145
Enter second number: 943
true
konradwojda@konradwojda:~/studia/oop-hyu/02-hw$ java CommonDigitCheck
Enter first number: 100
Enter second number: 564
false
konradwojda@konradwojda:~/studia/oop-hyu/02-hw$ java CommonDigitCheck
Enter first number: 2000
Enter second number: 333
false

```