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Kelas : I.1

Soal 3

Kode program:

```
1 public class ExceptionsQ4 {
2     public static void main(String[] args) {
3         int[] someArray = {12, 9, 3, 11};
4         int position = getPosition();
5         display(someArray, position);
6         System.out.println("End of program");
7     }
8
9     static int getPosition() {
10        System.out.println("Enter array position to display");
11        String positionEntered = EasyScanner.nextString();
12        return Integer.parseInt(positionEntered);
13    }
14
15    static void display(int[] arrayIn, int posIn) {
16        System.out.println("Item at this position is: " + arrayIn[posIn]);
17    }
18 }
```

```
1 import java.util.*;
2
3 public class EasyScanner
4 {
5     public static int nextInt()
6     {
7         Scanner keyboard = new Scanner(System.in);
8         int i = keyboard.nextInt();
9         return i;
10    }
11
12    public static double nextDouble()
13    {
14        Scanner keyboard = new Scanner(System.in);
15        double d = keyboard.nextDouble();
16        return d;
17    }
18
19    public static String nextString()
20    {
21        Scanner keyboard = new Scanner(System.in);
22        String s = keyboard.nextLine();
23        return s;
24    }
25
26    public static char nextChar()
27    {
28        Scanner keyboard = new Scanner(System.in);
29        char c = keyboard.next().charAt(0);
30        return c;
31    }
32 }
```

Jawaban pertanyaan:

1. Apakah ini akan menghasilkan kesalahan compiler?

Tidak akan menghasilkan kesalahan compiler karena tidak terjadi **Checked Exception**.

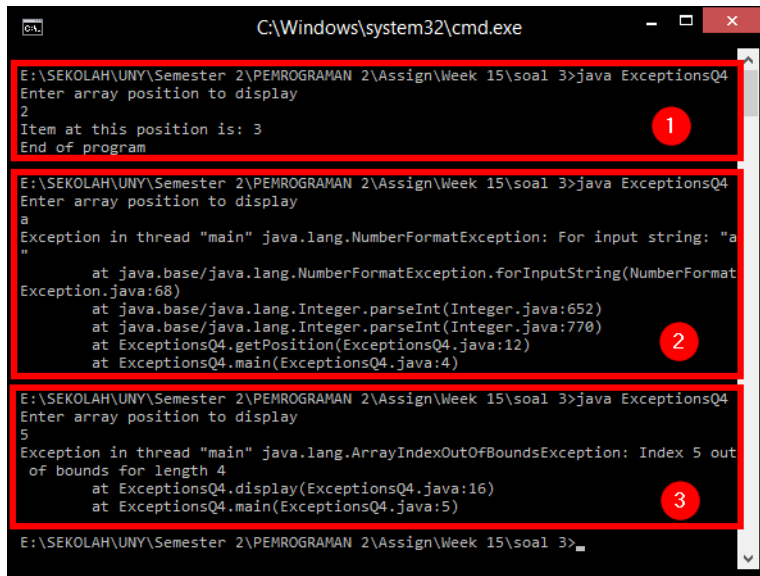
2. Metode apa saja yang dapat melemparkan exception?

Metode getPosition dan display.

3. Identifikasi nama-nama exception!

Saya menemukan dua kemungkinan exception yaitu **NumberFormatException** dan **ArrayIndexOutOfBoundsException**.

Hasil run:



```
C:\Windows\system32\cmd.exe

E:\SEKOLAH\UNY\Semester 2\PEMROGRAMAN 2\Assign\Week 15\soal 3>java ExceptionsQ4
Enter array position to display
2
Item at this position is: 3
End of program

E:\SEKOLAH\UNY\Semester 2\PEMROGRAMAN 2\Assign\Week 15\soal 3>java ExceptionsQ4
Enter array position to display
a
Exception in thread "main" java.lang.NumberFormatException: For input string: "a"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormat
Exception.java:68)
    at java.base/java.lang.Integer.parseInt(Integer.java:652)
    at java.base/java.lang.Integer.parseInt(Integer.java:770)
    at ExceptionsQ4.getPosition(ExceptionsQ4.java:12)
    at ExceptionsQ4.main(ExceptionsQ4.java:4)

E:\SEKOLAH\UNY\Semester 2\PEMROGRAMAN 2\Assign\Week 15\soal 3>java ExceptionsQ4
Enter array position to display
5
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 5 out
of bounds for length 4
    at ExceptionsQ4.display(ExceptionsQ4.java:16)
    at ExceptionsQ4.main(ExceptionsQ4.java:5)

E:\SEKOLAH\UNY\Semester 2\PEMROGRAMAN 2\Assign\Week 15\soal 3>
```

Penjelasan singkat:

1. Tidak terjadi exception karena data yang dimasukkan sesuai.
2. Terjadi **NumberFormatException** karena sebuah character selain angka di-parse ke integer.
3. Terjadi **ArrayIndexOutOfBoundsException** karena index array hanya ada 0 – 3, sedangkan user mencoba mengakses index ke-5.