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Practical No.2

AIM: Create a machine that checks whether a string has three consecutive ones.

CODE:

```
import java.util.Scanner;
public class Design {
    String str;
    int len;
    int comp = 0;
    void initial() {
        System.out.println("Input strings of 1 and 0\n");
        Scanner obj = new Scanner(System.in);
        str = obj.nextLine();
        len = str.length();
        if (len > 0) {
            for (int i = 0; i < len; i++) {
                char b1 = str.charAt(i);
                if (b1 != '1' && b1 != '0') {
                    System.out.println("Please provide a valid string");
                    System.exit(0);
                }
            }
            first();
        }
```

```
}
void first() {
    checkPattern('1', this::second);
}
void second() {
    checkPattern('1', this::third);
}
void third() {
    checkPattern('1', this::last);
}

void last() {
    if (comp < len) {
        comp++;
        last();
    } else {
        System.out.println("String will be accepted");
        System.exit(0);
    }
}
void checkPattern(char expected, Runnable nextStep) {
    if (comp < len) {
        char a1 = str.charAt(comp);
        if (a1 == expected) {
            comp++;
            nextStep.run();
```

```
            } else {
                comp++;
                first();
            }
        } else {
            System.out.println("Not a valid string");
        }
    }
    public static void main(String[] args) {
        Design d1 = new Design();
        d1.initial();
    }
}
```

OUTPUT:

```
C:\amol java>javac Design.java

C:\amol java>java Design
Input strings of 1 and 0

0111
String will be accepted

C:\amol java>java Design
Input strings of 1 and 0

0101
Not a valid string
```