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Java Programming

Lab assignment 06

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Java Program to Convert InputStream to String

Theory: We can convert an InputStream object to a String in Java using different Java APIs as well as a 3rd-party library — Apache Commons IO. Such as;

1. Using InputStream.readAllBytes() Method
2. Using ByteArrayOutputStream Class
3. Using BufferedReader Class
4. Using Scanner Class etc

Code:

```
import java.io.*;
```

```
public class InputStreamString {
```

```
    public static void main(String[] args) throws IOException {
```

```
        InputStream stream = new ByteArrayInputStream("Hello there!".getBytes());
```

```
        StringBuilder sb = new StringBuilder();
```

```
        String line;
```

```
        BufferedReader br = new BufferedReader(new InputStreamReader(stream));
```

```
        while ((line = br.readLine()) != null) {
```

```
            sb.append(line);
```

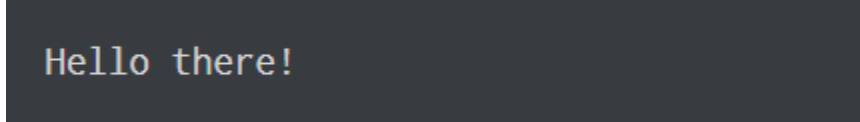
```
        }
```

```
        br.close();
```

```
        System.out.println(sb);
```

```
    }
```

```
}
```

Output:

```
Hello there!
```

Learning Outcome:

In the above program, the input stream is created from a String and stored in a variable stream. We also require a string builder sb to create the string from the stream. Then, we created a buffered reader br from the InputStreamReader to read the lines from the stream. Using a while loop, we read each line and append it to the string builder. Finally, we closed the bufferedReader.

Java Program to Convert a String into the InputStream

Theory: We can convert a string back into an InputStream object in various ways. Like;

1. Using ByteArrayInputStream Class: The simplest and most straightforward way to convert a string into an InputStream object is to use ByteArrayInputStream
2. Using Apache Commons IO: The Apache Commons IO library provides IOUtils.toInputStream() method to easily convert a string into an instance of InputStream

Code:

```
import java.io.ByteArrayInputStream;
import java.io.InputStream;
import java.nio.charset.StandardCharsets;

public class Main {
    public static void main(String args[]) {
        String name = "Sristi";
        System.out.println("String is: " + name);

        try {
```

```

        InputStream stream = new
        ByteArrayInputStream(name.getBytes(StandardCharsets.UTF_8));
        System.out.println("InputStream: " + stream);

        System.out.println("Available bytes at the beginning: " + stream.available());

        stream.read();
        stream.read();
        stream.read();
        System.out.println("Available bytes at the end: " + stream.available());

        stream.close();
    }

    catch (Exception e) {
        e.printStackTrace();
    }
}
}

```

Learning Outcome:

We have created a string named name. Here, we have been converting the string into the input stream named stream.