

Exp 3A - Shift Reduce Parser

```
import java.io.*;

class ShiftReduceParser
{
    public static void main(String[] args) throws
Exception
    {
        int no, loc=0, i, j;
        String str, stack="", temp;
        String[][] productions;
        BufferedReader in = new
BufferedReader(new InputStreamReader(System.in));
        System.out.print("Enter no. of
productions: ");
        no = Integer.parseInt(in.readLine());
        productions = new String[no][2];
        System.out.println("Enter the
productions:");
        for (i=0; i < no; i++)
        {
            System.out.print("LHS for
production "+(i+1)+" : ");
            productions[i][0] =
in.readLine();
            System.out.print("RHS for
production "+(i+1)+" : ");
            productions[i][1] =
in.readLine();
        }
        System.out.println("The productions
are:");
        for (i=0; i < no; i++)
```

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```
{
System.out.println(productions[i][0]+" ->
"+productions[i][1]);
}
System.out.print("Enter a string: ");
str = in.readLine();
while (loc < str.length()-1)
{
    temp = str.substring(loc,
str.indexOf(' ', loc));
    loc = str.indexOf(' ', loc)+1;
    for (i=0; i < no; i++)
    {
        if
(temp.equals(productions[i][1]))
        {
            temp =
productions[i][0];
            break;
        }
    }
    stack = stack+temp;
    System.out.println("Stack
contents: "+stack);
    for (i=0; i < no; i++)
    {
        if
(stack.equals(productions[i][1]))
        {
            stack =
productions[i][0];

```

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```
                                break;
                                }
                            }
                        }
                    System.out.println("Stack contents:
"+stack);
                    if (stack.equals(productions[0][0]))
                        System.out.println("Accepted.");
                    else
                        System.out.println("Rejected.");
                }
            }
        }
```