ZKPET – BUSINESS PROCESS PROVER

BPMN Circuit

**Legend**

a = Purchase Order

b = Booking

c = Invoice

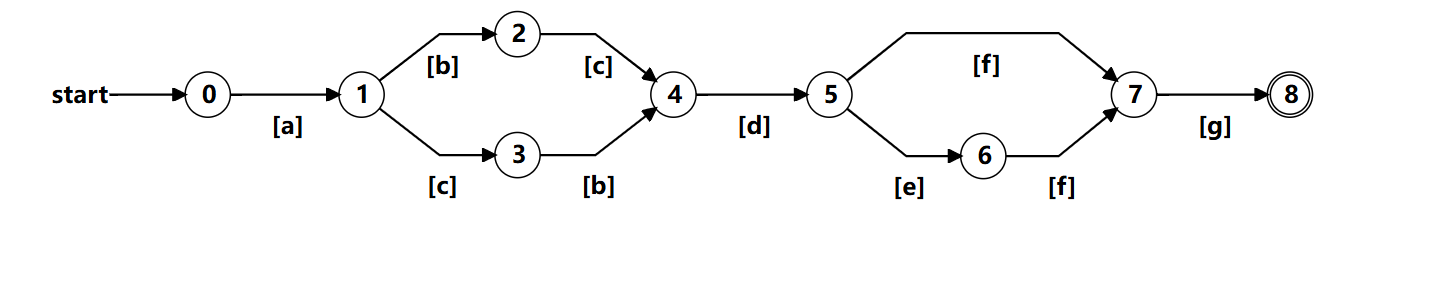
d = Shipping Instruction

e = OI

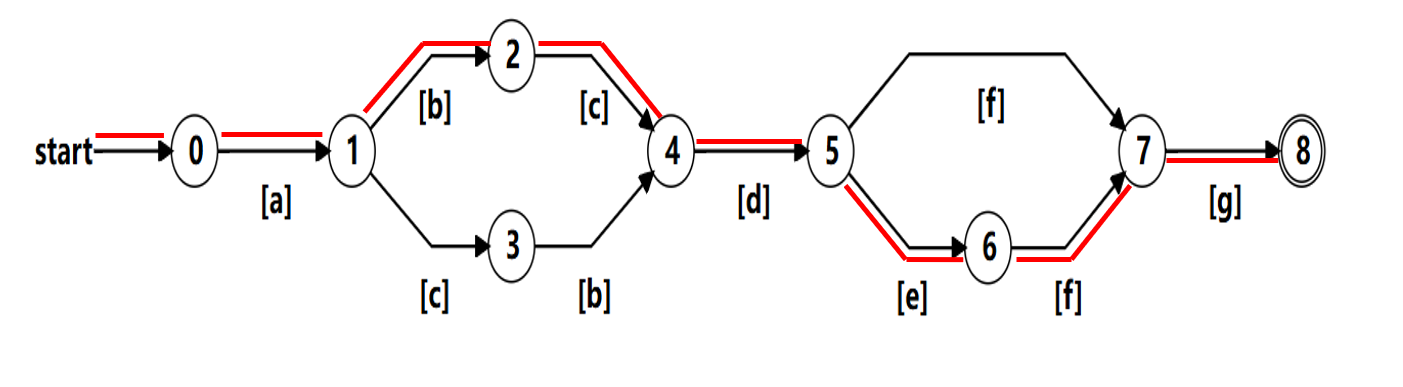
F = Bill of Lading

G = Received

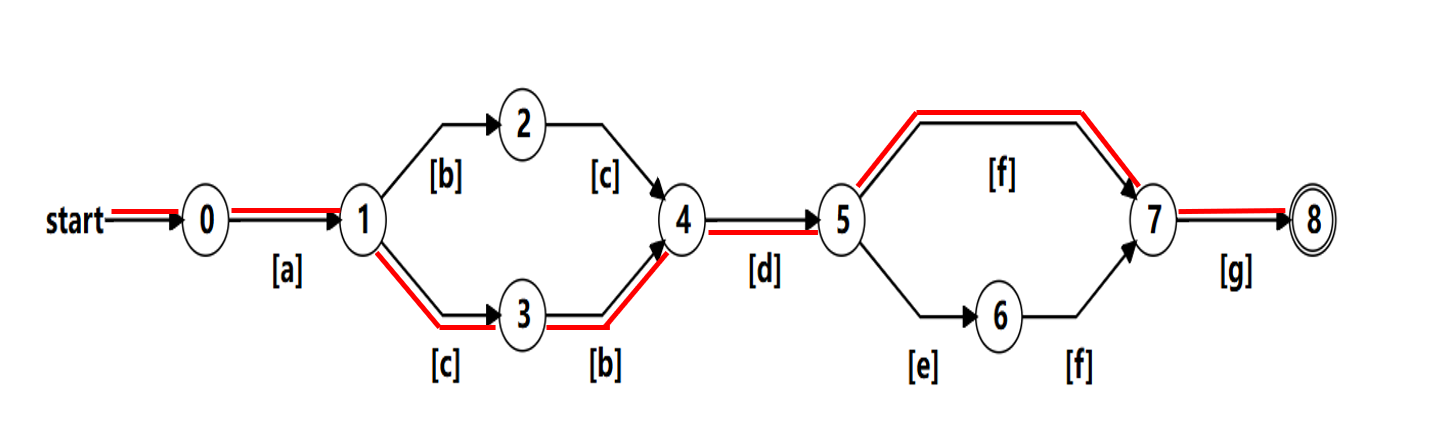
**Expected sequence of process :** a(cb|bc)d(ef|f)g



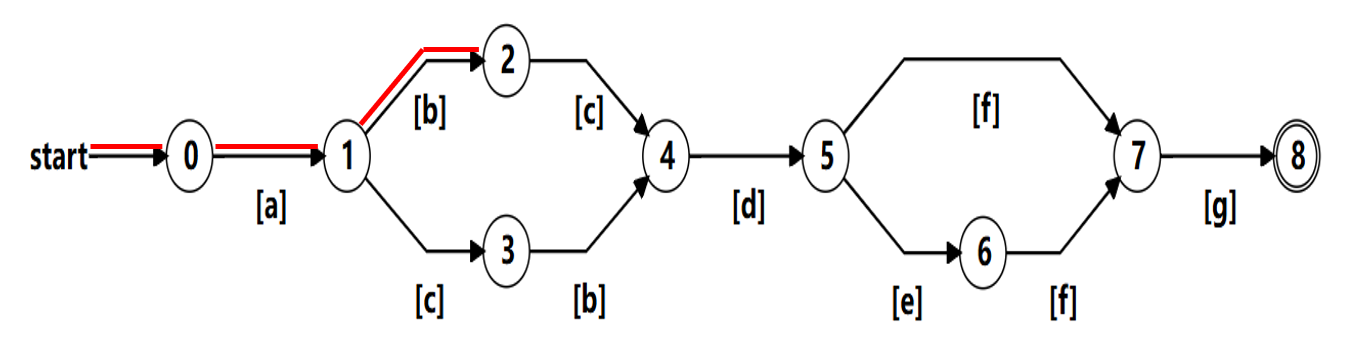
**Trace 1:** abcdefg (accepted)



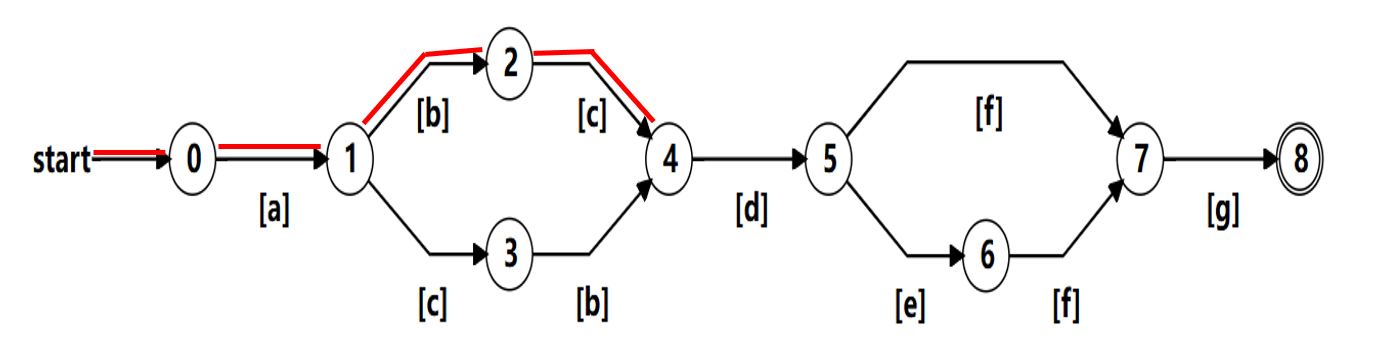
**Trace 2:** acbdfg (accepted)



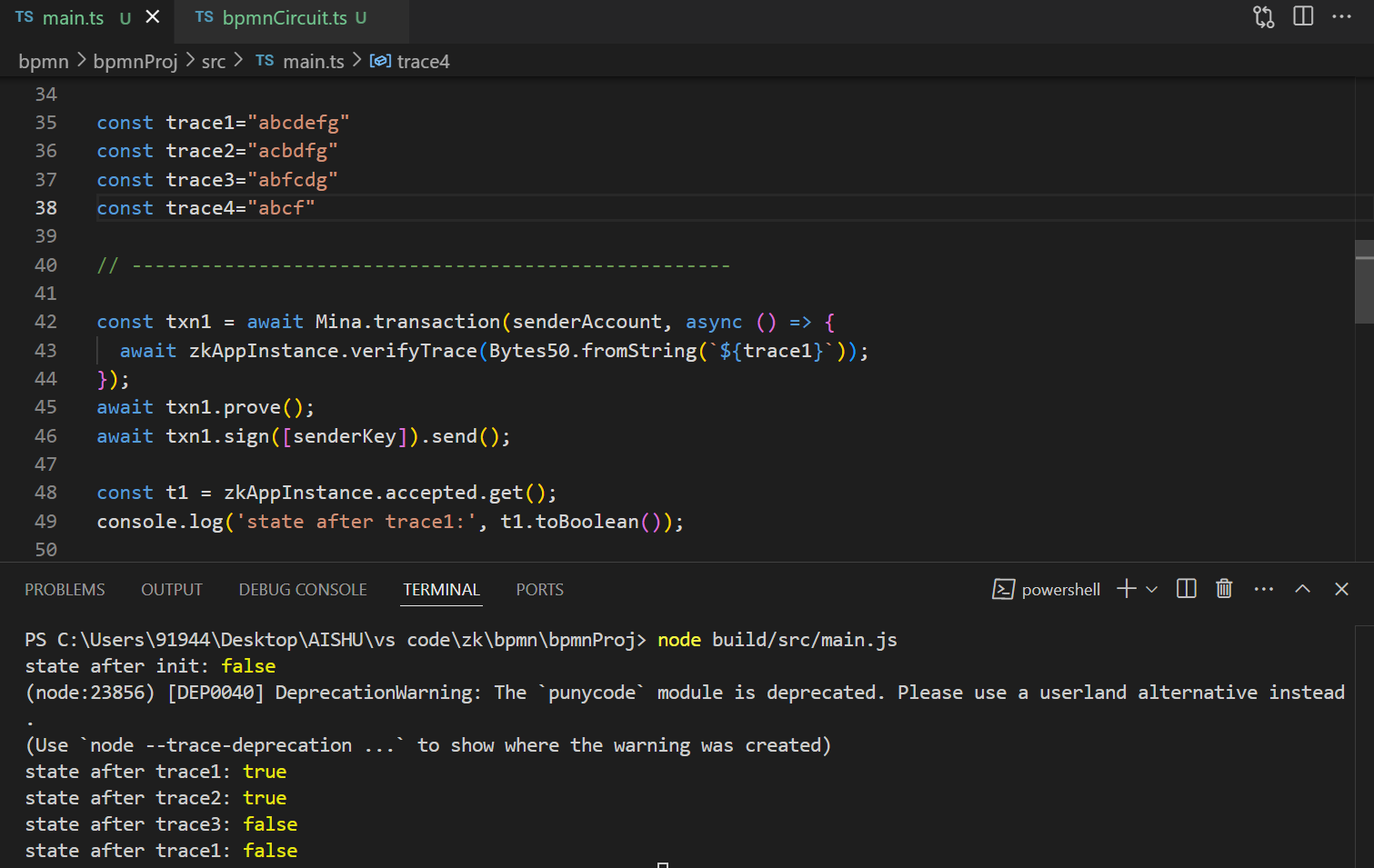
**Trace 3:** abfcdg (rejected)

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**Trace 4:** abcf (rejected)



**Screenshot of verification code**

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**Reference**

* link for generating circuit

<https://zkregex.com/min_dfa>

* link to check the circuit

<https://tool.zkregex.com/>

* online bpmn circuit designer

<https://bpmn.io/toolkit/bpmn-js/>

**XML File**<?xml version="1.0" encoding="UTF-8"?>

<definitions xmlns="http://www.omg.org/spec/BPMN/20100524/MODEL" xmlns:bpmndi="http://www.omg.org/spec/BPMN/20100524/DI" xmlns:omgdi="http://www.omg.org/spec/DD/20100524/DI" xmlns:omgdc="http://www.omg.org/spec/DD/20100524/DC" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" id="sid-38422fae-e03e-43a3-bef4-bd33b32041b2" targetNamespace="http://bpmn.io/bpmn" exporter="bpmn-js (https://demo.bpmn.io)" exporterVersion="17.7.1">

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<startEvent id="Event\_1e6mvux" name="0">

<outgoing>Flow\_1e1jt09</outgoing>

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<intermediateThrowEvent id="Event\_0ckb2yy" name="1">

<incoming>Flow\_1e1jt09</incoming>

<outgoing>Flow\_1mcdovg</outgoing>

<outgoing>Flow\_0xad9v9</outgoing>

</intermediateThrowEvent>

<sequenceFlow id="Flow\_1e1jt09" name="a" sourceRef="Event\_1e6mvux" targetRef="Event\_0ckb2yy" />

<intermediateThrowEvent id="Event\_0orj063" name="2">

<incoming>Flow\_1mcdovg</incoming>

<outgoing>Flow\_0uxr7s1</outgoing>

</intermediateThrowEvent>

<sequenceFlow id="Flow\_1mcdovg" name="b" sourceRef="Event\_0ckb2yy" targetRef="Event\_0orj063" />

<intermediateThrowEvent id="Event\_0s7vpsv" name="3">

<incoming>Flow\_0xad9v9</incoming>

<outgoing>Flow\_0q6gb9b</outgoing>

</intermediateThrowEvent>

<sequenceFlow id="Flow\_0xad9v9" name="c" sourceRef="Event\_0ckb2yy" targetRef="Event\_0s7vpsv" />

<intermediateThrowEvent id="Event\_09jlpil" name="4">

<incoming>Flow\_0uxr7s1</incoming>

<incoming>Flow\_0q6gb9b</incoming>

<outgoing>Flow\_16doo4t</outgoing>

</intermediateThrowEvent>

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<sequenceFlow id="Flow\_0q6gb9b" name="b" sourceRef="Event\_0s7vpsv" targetRef="Event\_09jlpil" />

<intermediateThrowEvent id="Event\_1ooatwj" name="5">

<incoming>Flow\_16doo4t</incoming>

<outgoing>Flow\_0u2xuqs</outgoing>

<outgoing>Flow\_0wslkb9</outgoing>

</intermediateThrowEvent>

<sequenceFlow id="Flow\_16doo4t" name="d" sourceRef="Event\_09jlpil" targetRef="Event\_1ooatwj" />

<intermediateThrowEvent id="Event\_0zmkq57" name="6">

<incoming>Flow\_0u2xuqs</incoming>

<outgoing>Flow\_0564sbo</outgoing>

</intermediateThrowEvent>

<sequenceFlow id="Flow\_0u2xuqs" name="e" sourceRef="Event\_1ooatwj" targetRef="Event\_0zmkq57" />

<intermediateThrowEvent id="Event\_024ls17" name="7">

<incoming>Flow\_0564sbo</incoming>

<incoming>Flow\_0wslkb9</incoming>

<outgoing>Flow\_01qx9za</outgoing>

</intermediateThrowEvent>

<sequenceFlow id="Flow\_0564sbo" name="f" sourceRef="Event\_0zmkq57" targetRef="Event\_024ls17" />

<sequenceFlow id="Flow\_0wslkb9" name="f" sourceRef="Event\_1ooatwj" targetRef="Event\_024ls17" />

<endEvent id="Event\_0d8ci30" name="8">

<incoming>Flow\_01qx9za</incoming>

</endEvent>

<sequenceFlow id="Flow\_01qx9za" name="g" sourceRef="Event\_024ls17" targetRef="Event\_0d8ci30" />

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<text>start</text>

</textAnnotation>

<association id="Association\_1x3xuqw" associationDirection="None" sourceRef="Event\_1e6mvux" targetRef="TextAnnotation\_1bwv3je" />

<textAnnotation id="TextAnnotation\_1gqiu4d">

<text>end</text>

</textAnnotation>

<association id="Association\_09y5cux" associationDirection="None" sourceRef="Event\_0d8ci30" targetRef="TextAnnotation\_1gqiu4d" />

</process>

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<bpmndi:BPMNEdge id="Flow\_16doo4t\_di" bpmnElement="Flow\_16doo4t">

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<omgdi:waypoint x="792" y="280" />

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<bpmndi:BPMNEdge id="Flow\_0wslkb9\_di" bpmnElement="Flow\_0wslkb9">

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