**Automata Formal Languages and Logic**

**WEEK 1 ASSIGNMENT**

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| **SECTION: E** | **DATE: 24/09/2021** |

**Q. c followed by: 'a' or "bc", followed by an optional a**

**PROGRAM:**

**def start(c):**

**if c == "c":**

**dfa = 1**

**else:**

**dfa = -1**

**return dfa**

**def state1(c):**

**if c == "a":**

**dfa = 3**

**elif c == "b":**

**dfa = 2**

**else:**

**dfa = -1**

**return dfa**

**def state2(c):**

**if c == "c":**

**dfa = 3**

**else:**

**dfa = -1**

**return dfa**

**def state3(c):**

**if c == "a":**

**dfa = 4**

**elif c == "":**

**dfa = 4**

**else:**

**dfa = -1**

**return dfa**

**def state4(c):**

**dfa = -1**

**return dfa**

**def isAccepted(String):**

**dfa = 0**

**for i in range(len(String)):**

**if dfa == 0:**

**dfa = start(String[i])**

**elif dfa == 1:**

**dfa = state1(String[i])**

**elif dfa == 2:**

**dfa = state2(String[i])**

**elif dfa == 3:**

**dfa = state3(String[i])**

**elif dfa == 4:**

**dfa = state4(String[i])**

**else:**

**return 0**

**if dfa == 3:**

**return 1**

**elif dfa == 4:**

**return 1**

**else:**

**return 0**

**String = input()**

**if isAccepted(String):**

**print("Accepted")**

**else:**

**print("Not Accepted")**

**OUTPUT SCREENSHOT:**

