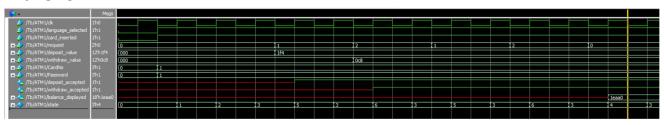
Self checking

• Case 1

Wave form:



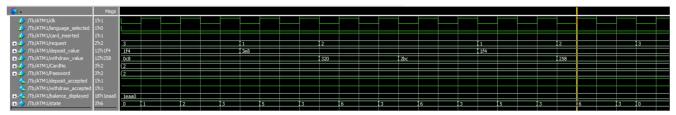
C++:

IDLE_STATE
card_inserted: 1
LANGUAGE_SELECTED_STATE
language_selected: 1
The language is Arabic
PASSWORD_ENTERED_STATE CardNo: 1 Password: 1 OPERATION_SELECTED_STATE request: $\overline{1}$ DEPOSIT_STATE
deposit_value: 500 deposit accepted: 1 OPERATION SELECTED STATE request: 2 WITHDRAW_STATE withdraw_value: 200 withdraw_accepted: 1 OPERATION_SELECTED_STATE request: $\overline{1}$ DEPOSIT_STATE deposit_value: 500 deposit_accepted: 1 OPERATION_SELECTED_STATE request: 2 WITHDRAW STATE withdraw value: 200 withdraw accepted: 1 OPERATION_SELECTED_STATE request: 0 BALANCE_SERVICE_STATE 125600 OPERATION_SELECTED_STATE request: $\overline{3}$ IDLE STATE Card is out

As shown in the previous figures when the request=1 and there is a value inserted, the deposit_accepted =1 in the wave form and the deposit_accepted =1 in the c++ model. when the request =2 and there is a value inserted , withdraw_accepted =1 in the wave form and withdraw_accepted =1 in the c++. When the request =0 the balance is displayed in both models.

Case 2

Wave form:



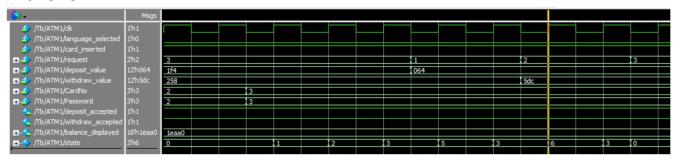
C++:

card_inserted: 1 LANGUAGE_SELECTED_STATE language_selected: 0 The language is English PASSWORD_ENTERED_STATE CardNo: 2 Password: 2 OPERATION SELECTED STATE request: $\bar{1}$ DEPOSIT_STATE deposit_value: 1000 deposit_accepted: 1 OPERATION SELECTED STATE request: 2 WITHDRAW STATE withdraw_value: 800 withdraw_accepted: 1 OPERATION SELECTED STATE request: 2
WITHDRAW_STATE
withdraw_value: 700
withdraw_accepted: 1
OPERATION_SELECTED_STATE request: 1 DEPOSIT_STATE deposit_value: 500
deposit_accepted: 1
OPERATION_SELECTED_STATE request: 2 WITHDRAW_STATE withdraw_value: 600 withdraw_accepted: 1 OPERATION_SELECTED_STATE request: 3
IDLE_STATE Card is out

As shown in the previous figures when the request=1 and there is a value inserted, the deposit_accepted =1 in the wave form and the deposit_accepted =1 in the c++ model. when the request =2 and there is a value inserted, withdraw_accepted =1 in the wave form and withdraw_accepted =1 in the c++.

• Case 3

Wave form:



C++:

IDLE STATE card inserted: 1 LANGUAGE SELECTED STATE language selected: 0 The language is English PASSWORD ENTERED STATE CardNo: 3 Password: 3 OPERATION_SELECTED_STATE request: 1 DEPOSIT STATE deposit value: 100 deposit_accepted: 1 OPERATION SELECTED STATE request: 2 WITHDRAW STATE withdraw value: 1500 withdraw accepted: 1 OPERATION SELECTED STATE request: 3 **IDLE STATE** Card is out

As shown in the previous figures when the request=1 and there is a value inserted, the deposit_accepted =1 in the wave form and the deposit_accepted =1 in the c++ model. when the request =2 and there is a value inserted, withdraw_accepted =1 in the wave form and withdraw_accepted =1 in the c++.

• Case 4

Wave form:

₽ .	Msgs																
	1h1																
/Tb/ATM1/language_selected	1'h0																
	1h1																
	2'h1	3					1			2			1			3	
		064					bb8						fa0				
	12'h9c4	5dc								9c4							
	3'h4	3	4														
	3'h4	3	4														
	1'h0																
/Tb/ATM1/withdraw_accepted																	
	18'h 1eaa0	1eaa0															
/Tb/ATM1/state	3'h5	0		1	2	3		5	3		6	3		5	3	0	

C++:

IDLE STATE card inserted: 1 LANGUAGE SELECTED STATE language selected: 0 The language is English PASSWORD ENTERED STATE CardNo: 4 Password: 4 OPERATION SELECTED STATE request: 1 DEPOSIT STATE deposit value: 3000 deposit_accepted: 0 OPERATION SELECTED STATE request: 2 WITHDRAW STATE withdraw value: 2500 withdraw accepted: 1 OPERATION SELECTED STATE request: 1 DEPOSIT STATE deposit value: 4000 deposit accepted: 0 OPERATION SELECTED STATE request: 3 IDLE STATE Card is out

When a number more than 2000 is entered as a deposit value, the deposit_accepted =0 in both models.

• Case5

Wave form:

ૄ	Msgs							
∮ /Tb/ATM1/dk	1'h1							
/Tb/ATM1/language_selected	1'h1							
<pre>/Tb/ATM1/card_inserted</pre>	1'h1							
■- /Tb/ATM1/request	2'h3	3						
☐→	12'hfa0	fa0						
■- /Tb/ATM1/withdraw_value	12'h9c4	9c4						
■- /Tb/ATM1/CardNo	3'h6	4	6					
■- /Tb/ATM1/Password	3'h6	4	6					
/Tb/ATM1/deposit_accepted	1'h0							
/Tb/ATM1/withdraw_accepted	1'h1							
■ /Tb/ATM1/balance_displayed	18'h 1eaa0	1eaa0						
■-/Tb/ATM1/state	3'h2	0		1		2		

C++:

```
IDLE STATE
card inserted: 1
LANGUAGE SELECTED STATE
language selected: 1
The language is Arabic
PASSWORD ENTERED STATE
CardNo: 6
Password: 6
Password or Card Number are not valid
PASSWORD ENTERED STATE
CardNo: 6
Password: 6
Password or Card Number are not valid
PASSWORD ENTERED STATE
CardNo: 6
Password: 6
Password or Card Number are not valid
```

When the Cardno and Password entered are not valid the sytem remains in the state of PASSWORD_ENTERED_STATE .