DDS PROJECT DESIGN

Vending Machine for cold and Hot

Abstract:

Basically, our design of vending machine will give bot
beverages. To illustrate it, we have included two
hot beverages and four cold beverages, it can be chan
more drinks accordingly to the demand.

Problems with the existing machines and their soluti

- The customer may drink the beverage and escape withou

the shop owner is busy with other customers, Sometimes th
pay the money

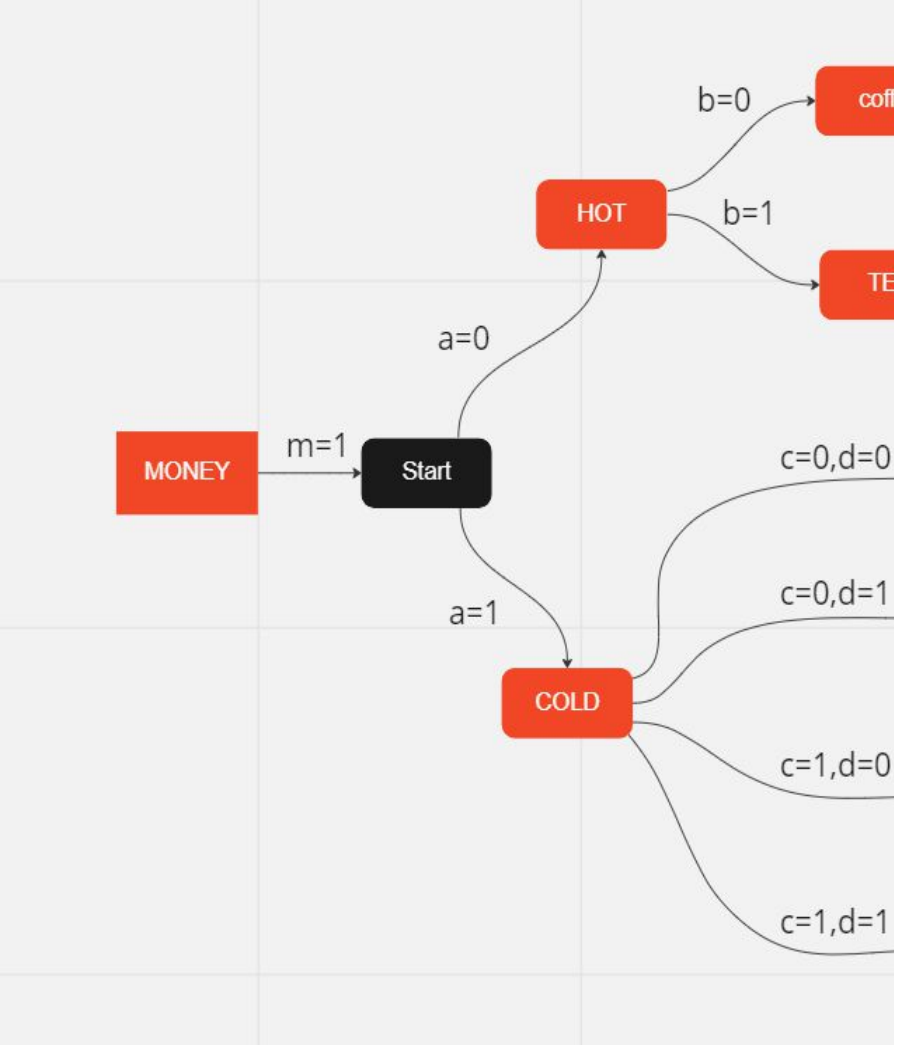
To overcome this issue, we have designed in such a way that
is paid.

- We haven't yet experienced a vending machine which has

beverages, but our design overcomes this issue too!!

Flow Chart:

The above flow chart explains our model, i.e if Money starts, the user should give input to the system in terı line inputs, 0 represents hot beverages while 1 repres the same is done to obtain hot beverages. since there beverages, four different combinations are required, combinations of 0 and 1 as inputs to two select lines a flow chart



Truth table:

Money	a	b	c d	Coffee	Tea	Coke	Pepsi	Maaza

0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0
0	0	0	1	1	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0	0	0
0	0	1	1	0	0	0	0	0	0
0	0	1	1	1	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0	0
0	1	0	1	0	0	0	0	0	0
0	1	0	1	1	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0
0	1	1	0	1	0	0	0	0	0
0	1	1	1	0	0	0	0	0	0
0	1	1	1	1	0	0	0	0	0
1	0	0	0	0	1	0	0	0	0
1	0	0	0	1	1	0	0	0	0
1	0	0	1	0	1	0	0	0	0
1	0	0	1	1	1	0	0	0	0
1	0	1	0	0	0	1	0	0	0
1	0	1	0	1	0	1	0	0	0
1	0	1	1	0	0	1	0	0	0
1	0	1	1	1	0	1	0	0	0
1	1	0	0	0	0	0	1	0	0
1	1	0	0	1	0	0	0	1	0
1	1	0	1	0	0	0	0	0	1
1	1	0	1	1	0	0	0	0	0
1	1	1	0	0	0	0	1	0	0
1	1	1	0	1	0	0	0	1	0
1	1	1	1	0	0	0	0	0	1
1	1	1	1	1	0	0	0	0	0

Truth table explanation:

Variable ‘a’ is a select line for a 1:2 decoder. Variable ‘
1:2 decoder. Variable ‘c’,‘d’ are select lines for a 2:4 de

a – 0 mean Hot a – 1 mean Cold
b – 0 mean Coffee b – 1 mean Tea c, d – 0 0 mea
c, d – 0 1 mean Pepsi c, d – 1 0 mean Maaza
c, d – 1 1 mean Orange Juice.

K-MAP FOR COFFEE:

Group : 1

M,a \ b,c,d	000	001	011	010	110	111	101	100
00	0 0	0 1	0 3	0 2	0 6	0 7	0 5	0 4
01	0 8	0 9	0 11	0 10	0 14	0 15	0 13	0 12
11	0 24	0 25	0 27	0 26	0 30	0 31	0 29	0 28
10	1 16	1 17	1 19	1 18	0 22	0 23	0 21	0 20

Coffee(M, a, b, c, d) = Ma'b'

K- MAP FOR TEA:

K-MAP FOR COKE:

Group : 1

M,a \ b,c,d	000	001	011	010	110	111	101	100
00	0 0	0 1	0 3	0 2	0 6	0 7	0 5	0 4
01	0 8	0 9	0 11	0 10	0 14	0 15	0 13	0 12
11	0 24	0 25	0 27	0 26	0 30	0 31	0 29	0 28
10	0 16	0 17	0 19	0 18	1 22	1 23	1 21	1 20

Tea(M, a, b, c, d) = Ma'b

Group : 1

M,a \ b,c,d	000	001	011	010	110	111	101	100
00	0 0	0 1	0 3	0 2	0 6	0 7	0 5	0 4
01	0 8	0 9	0 11	0 10	0 14	0 15	0 13	0 12
11	1 24	0 25	0 27	0 26	0 30	0 31	0 29	1 28
10	0 16	0 17	0 19	0 18	0 22	0 23	0 21	0 20

K-MAP FOR PEPSI:

K-MAP FOR MAAZA:

Coke(M, a, b, c, d) = Mac'd'

Group : 1

M,a \ b,c,d	000	001	011	010	110	111	101	100
00	0 0	0 1	0 3	0 2	0 6	0 7	0 5	0 4
01	0 8	0 9	0 11	0 10	0 14	0 15	0 13	0 12
11	0 24	1 25	0 27	0 26	0 30	0 31	1 29	0 28
10	0 16	0 17	0 19	0 18	0 22	0 23	0 21	0 20

Pepsi(M, a, b, c, d) = Mac'd

Group : 1

M,a \ b,c,d	000	001	011	010	110	111	101	100
00	0 0	0 1	0 3	0 2	0 6	0 7	0 5	0 4
01	0 8	0 9	0 11	0 10	0 14	0 15	0 13	0 12
11	0 24	0 25	0 27	1 26	1 30	0 31	0 29	0 28
10	0 16	0 17	0 19	0 18	0 22	0 23	0 21	0 20

Maaza(M, a, b, c, d) = Macd'

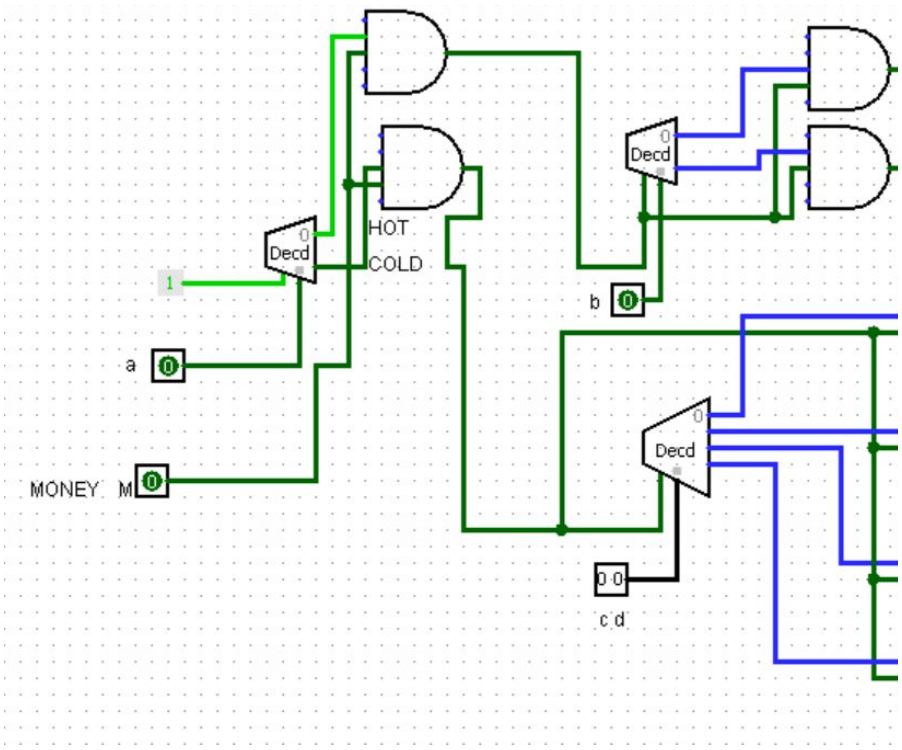
K-MAP FOR ORANGE JUICE:

CIRCUIT DIAGRAM:

Group : 1

M,a \ b,c,d	000	001	011	010	110	111	101	100
00	0 0	0 1	0 3	0 2	0 6	0 7	0 5	0 4
01	0 8	0 9	0 11	0 10	0 14	0 15	0 13	0 12
11	0 24	0 25	1 27	0 26	0 30	1 31	0 29	0 28
10	0 16	0 17	0 19	0 18	0 22	0 23	0 21	0 20

Orange juice(M, a, b, c, d) = Macd


Decd
HOT
COLD
1
a
MONEY
M
b
Decd
Decd
0 0
c d

N

t beverages

h cold and hot

ged or even added

ons:

t paying the money if
e customer may forget to

, it works only if money

s both hot and cold

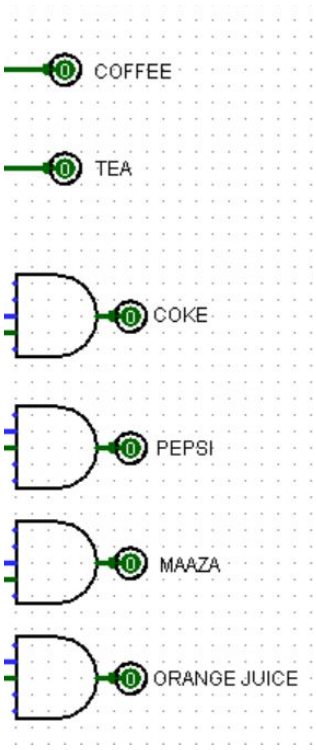
' is paid, the machine
ms of 0 or 1 as select
sents cold beverages,
are four cold
we have done it using
as shown in the above

Orange Juice

0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
1
0
0
0
1

'b' is a select line for a
ecoder.

n Coke


COFFEE
TEA
COKE
PEPSI
MAAZA
ORANGE JUICE