

## Right Linear Grammar for Designed Vending machine

$S \rightarrow aA$  (S: Standby / A: Show Menu)

$S \rightarrow bZ$  (Z: Resupply)

$Z \rightarrow aS$

$A \rightarrow aB$  (B: Order)

$B \rightarrow aC$  (C: Order Product1)

$C \rightarrow aH$  (H: Enter Quantity)

$B \rightarrow bD$  (D: Order Product2)

$D \rightarrow bH$

$B \rightarrow cE$  (E: Order Product3)

$E \rightarrow cH$

$B \rightarrow dF$  (F: Order Product4)

$F \rightarrow dH$

$B \rightarrow eG$  (G: Order Product5)

$G \rightarrow eH$

$H \rightarrow dK$  (K: Clear Cart)

$K \rightarrow fA$

$H \rightarrow aI$  (I: Check)

$I \rightarrow dK$

$I \rightarrow aJ$  (J: Confirm Order)

$J \rightarrow bB$

$J \rightarrow dK$

$J \rightarrow aL$  (L: Show Cart)

$L \rightarrow dK$

$L \rightarrow bB$

$L \rightarrow aP$

$P \rightarrow eM$  (M: Payment Failed)

$M \rightarrow dK$

$P \rightarrow eN$  (N: Payment Successful)

$N \rightarrow aQ$  (Q: Reduce Quantity)

$Q \rightarrow aW$  (W: Eject Product)

$W \rightarrow aS$

## Right Linear Grammar for Designed Vending machine

S#aA

S#λ

S#bZ

Z#aS

A#aB

B#aC

C#aH

B#bD

D#bH

B#cE

E#cH

B#dF

F#dH

B#eG

G#eH

H#dK

K#fA

H#al

I#dK

I#aJ

J#bB

J#dK

J#aL

L#dK

L#bB

L#aP

P#eM

M#dK

P#eN

N#aQ

Q#aW

W#aS