

# CS F351

## Assignment-2



This Assignment is Submitted as an Evaluation Component of TOC Course  
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## Grammar for Basic C

1.  $\langle \text{Start\_Sym} \rangle \rightarrow \langle \text{Dec\_Stat} \rangle ; | \langle \text{Dec\_Stat} \rangle ; \langle \text{Prod} \rangle | \langle \text{Prod} \rangle$
2.  $\langle \text{Dec\_Stat} \rangle \rightarrow \text{int} \langle \text{Var\_List} \rangle$
3.  $\langle \text{Var\_List} \rangle \rightarrow \langle \text{Var} \rangle , \langle \text{Var\_List} \rangle | \langle \text{Var} \rangle$
4.  $\langle \text{Prod} \rangle \rightarrow \langle \text{Stat} \rangle \langle \text{Prod} \rangle | \langle \text{Stat} \rangle$
5.  $\langle \text{Stat} \rangle \rightarrow \langle \text{Read\_Stat} \rangle ; | \langle \text{Write\_Stat} \rangle ; | \langle \text{Assign\_Stat} \rangle ; | \langle \text{For\_Loop\_Stat} \rangle ;$
6.  $\langle \text{Read\_Stat} \rangle \rightarrow \text{read} \langle \text{Var} \rangle$
7.  $\langle \text{Write\_Stat} \rangle \rightarrow \text{write} \langle \text{Var} \rangle | \text{write} \langle \text{Int\_Const} \rangle$
8.  $\langle \text{Assign\_Stat} \rangle \rightarrow \langle \text{Var} \rangle = \langle \text{Expr} \rangle$
9.  $\langle \text{Expr} \rangle \rightarrow \langle \text{Expr} \rangle \langle \text{Term1} \rangle | \langle \text{Expr} \rangle == \langle \text{Term1} \rangle | \langle \text{Term1} \rangle$
10.  $\langle \text{Term1} \rangle \rightarrow \langle \text{Term1} \rangle + \langle \text{Term2} \rangle | \langle \text{Term1} \rangle - \langle \text{Term2} \rangle | \langle \text{Term2} \rangle$
11.  $\langle \text{Term2} \rangle \rightarrow \langle \text{Term2} \rangle * \langle \text{Factor} \rangle | \langle \text{Term2} \rangle / \langle \text{Factor} \rangle | \langle \text{Factor} \rangle$
12.  $\langle \text{Factor} \rangle \rightarrow ( \langle \text{Expr} \rangle ) | \langle \text{Var} \rangle | \langle \text{Int\_Const} \rangle$
13.  $\langle \text{For\_Loop\_Stat} \rangle \rightarrow \text{for} ( \langle \text{Assign\_Stat} \rangle ; \langle \text{Expr} \rangle ; \langle \text{Assign\_Stat} \rangle ) \{ \langle \text{Seq} \rangle \}$
14.  $\langle \text{Seq} \rangle \rightarrow \langle \text{Stat} \rangle | \langle \text{Stat} \rangle \langle \text{Seq} \rangle$
15.  $\langle \text{Var} \rangle \rightarrow i | i \langle \text{Alpha} \rangle | \text{in} \langle \text{Alpha\_Excl\_T} \rangle | \text{in} \langle \text{Alpha} \rangle \langle \text{Alpha\_Rec} \rangle | i \langle \text{Alpha\_Excl\_N} \rangle \langle \text{Alpha\_Rec} \rangle | f | f \langle \text{Alpha} \rangle | \text{fo} \langle \text{Alpha\_Excl\_R} \rangle | \text{fo} \langle \text{Alpha} \rangle \langle \text{Alpha\_Rec} \rangle | f \langle \text{Alpha\_Excl\_O} \rangle \langle \text{Alpha\_Rec} \rangle | r | r \langle \text{Alpha} \rangle | r \langle \text{Alpha} \rangle \langle \text{Alpha} \rangle | r \langle \text{Alpha\_Excl\_E} \rangle \langle \text{Alpha\_Rec} \rangle | \text{re} \langle \text{Alpha\_Excl\_A} \rangle \langle \text{Alpha\_Rec} \rangle | \text{rea} \langle \text{Alpha\_Excl\_D} \rangle | \text{rea} \langle \text{Alpha} \rangle \langle \text{Alpha\_Rec} \rangle | w | w \langle \text{Alpha} \rangle | w \langle \text{Alpha\_Excl\_R} \rangle \langle \text{Alpha\_Rec} \rangle | \text{wr} \langle \text{Alpha\_Excl\_I} \rangle \langle \text{Alpha\_Rec} \rangle | \text{wri} \langle \text{Alpha\_Excl\_T} \rangle \langle \text{Alpha\_Rec} \rangle | \text{writ} \langle \text{Alpha\_Excl\_E} \rangle | \text{writ} \langle \text{Alpha} \rangle \langle \text{Alpha\_Rec} \rangle | w \langle \text{Alpha} \rangle \langle \text{Alpha} \rangle | w \langle \text{Alpha} \rangle \langle \text{Alpha} \rangle \langle \text{Alpha} \rangle | \langle \text{Non\_Key\_Alpha} \rangle \langle \text{Alpha\_Rec} \rangle | \langle \text{Non\_Key\_Alpha} \rangle$
16.  $\langle \text{Alpha\_Excl\_A} \rangle \rightarrow b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z$
17.  $\langle \text{Alpha\_Excl\_D} \rangle \rightarrow a | b | c | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z$
18.  $\langle \text{Alpha\_Excl\_E} \rangle \rightarrow a | b | c | d | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z$
19.  $\langle \text{Alpha\_Excl\_I} \rangle \rightarrow a | b | c | d | e | f | g | h | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | z$
20.  $\langle \text{Alpha\_Excl\_N} \rangle \rightarrow a | b | c | d | e | f | g | h | i | j | k | l | m | o | p | q | r | s | t | u | v | w | x | y | z$
21.  $\langle \text{Alpha\_Excl\_O} \rangle \rightarrow a | b | c | d | e | f | g | h | i | j | k | l | m | n | p | q | r | s | t | u | v | w | x | y | z$

22. < Alpha\_Excl\_R >  $\rightarrow$  a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | s |  
t | u | v | w | x | y | z
23. < Alpha\_Excl\_T >  $\rightarrow$  a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r |  
s | u | v | w | x | y | z
24. < Alpha >  $\rightarrow$  a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u |  
v | w | x | y | z
25. < Non\_Key\_Alpha >  $\rightarrow$  a | b | c | d | e | g | h | j | k | l | m | n | o | p | q | s | t |  
u | v | x | y | z
26. < Alpha\_Rec >  $\rightarrow$  < Alpha\_Rec > < Alpha > | < Alpha >
27. < Int\_Const >  $\rightarrow$  0 | < Non\_Zero\_Unsign\_Int >
28. < Non\_Zero\_Unsign\_Int >  $\rightarrow$  < Non\_Zero\_Digit > < Digits > | <  
Non\_Zero\_Digit >
29. < Non\_Zero\_Digit >  $\rightarrow$  1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
30. < Digits >  $\rightarrow$  < Digits > < Digits >
31. < Digits >  $\rightarrow$  0 | < Non\_Zero\_Digit >