Date: Name: Abdw Aziz	
Compiler Construction	
Assignment No 03	-
	9
BCSF19A026	به
1) Removing Null prodution:	4
if Stmt -> H (BOOLEXPY) Stml Else Part if (Bod Exp1) Stml	3
Elsepart -> else Stat	-
	4
CompoundSimt > { Strillist } { }	-
Storillist -> stmtlist stnt stnt	7
2) Removing Cycles:	9,
since there is not cycle so, we skip this part.	5 6
3) Lemoving unit production:	5
Anglist - type schendifier Anglist, Ang	-
	4 4
Simi -> While (Bool Expr) stant [Expr i Estantlist] [] Type Identified Bool Expr) stant Else part 16 (Bool Expr) stant i	1000
	する
Mag - Mast leam Mag -torm term + Factor Termsfactor	4 +
(Expr) (Identifier Number	0

Date:	
Term ᢖ	Term * Factor Term/Factor (Expr) / Identified
	When they be a freely be to be a first
Stmtlist_	> startlist start while (BoolExpr) taut Expr 3
	Stantlist } { } type d 3 If (Bool Expr) Start Flse port
)'	if (Bool Fapr) Stmt
W) Days	virel Direct HRecorsion:
, John	THE CONTROL :
. Arglist	-> type Identifier Arglist'
Company of the St	,
Anglist'	-> , Arg Arglist'/E
St nut (ist - stant stant (ist
stmtli.	st/ > simt similist/ 18
mas_	Team + Factor Mag Team/Factor Mag / (Fir) Mag /
	Identifier Masi promper Masi
mag =	> +Term May / 1-Term May / E
N. Cha.	
Term -	> (Expx) Term' Identifies Term' mimber Term'
Term'-	> + Factor Term' / Factor Term' 6
s) Rev	noving Indirect lest Recursion.
since	There is no Indirect left Recursion
	so, we skip this part.

Date:
6) Romoving Left Fectoring:
stmt -> while (Booltxpr) sml [Expri] { stnd 1//
type Identifier 1 16 am 2/3
Strut 1' -> symu list 3/7
Stut 2 -> (Bool Fxpx) Stut Stul Stul
Strut 3 -> Elsepart / E
if SIMI - 1/ (Bool Expr) SIMI if SIMI
if stmt = Else pout / E
Compare - == 1 < compare 1 > compare 2
Compare1 -> = > 1 E
Compuse2 -> = 1 &
19 se in this had and a but the way of the sail
Mag _ Team Mag2 ((EAPX) Mag / identilex
Mul' + Term Mag' - Term Mag' / E
The first the first to produce the first to
Mag 2 - * Factor Mag / / Factor Mag

2 compare

Date: Compard compar2 -Expr -> identifier : May Muy - Termp mas 2 (expr) may I Identifier from the May Mag - + Term May 1 - Team Mag 12 + Fador Mag' | / Fador Mag' (Expr) Term / Identifier Term / number Term * Factor Termin / Factor Term 15 I Identifier | number

Calculation	First set &	Follow set
Non Terminal	First set	Follow set
* Function	Sint, float?	{\$}
+ Arglist	Eint, float?	{(3
* Agglist	\$9, E.]	£ 23 - 2
A Ag	Eint, float?	{,,7}
+ st mit	[while, id, {, int, float, if, i]	felse, while, id, if, E, int, float, i}
sint1'	{ while, id, {, int, floal, if, i, E}	{while, id, if, &, rd, float, i, else}
strut 3	{ else, 3 }	{while, id, if, E, in, float, esse}
* Declaration	{int, float}	{ }
* Type	{in1, float}	{id}
+ unite Stmt	Ewhile }	
if stmI	{ if }	- { }
if simt'	{else, E}	Sala validad it int bloots is it
Else part	{else }	Selse, while, id, it, joat, i,;, []
* compound Street	{ { }	())
smīlst.	{ while, id, if, E, int, float, if	() 7
strut list /	while, id, if, E, int, float, i.E.	<i>(</i>) ?
* BOOLEXPY	{ i'd }	1 / id /4×2
compare {	=, 4, >}	{ (, id, number)
compare!	{=, >, }	{ C, id, number ?
compare 2	£ > £ {	{ c, id, number}
EXPY	{ ld }	<pre></pre>
so mag	[C, id, number]	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
* mas'	(+, -, E)	₹), 1 J
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mag 2	{	4, / 3	<i>(i,)</i>	\{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
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Term!	3 }	, x, / }	1 X, /,	+,-,;,)}
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