# 状态0

**SL’-> ·SL**

**SL-> ·S SL**

**SL->·S**

**S->·E**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E->·AE**

**E->·RE**

**E->·LE**

**AE->·AE OP AE**

**AE->·(AE)**

**AE->·id**

**AE->·num**

**RE->·AE>AE**

**RE->·AE>=AE**

**RE->·AE<AE**

**RE->·AE<=AE**

**RE->·AE!=AE**

**RE->·AE==AE**

**LE->·RE**

**LE->·LE&&LE**

**LE->·LE||LE**

**LE->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态1

**SL’-> SL·**

# 状态2

**SL’-> S·SL**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态3

**S->E·;**

# 状态4

**E ->AE ·**

**AE ->AE ·OP AE**

**RE -> AE·>AE**

**RE -> AE·>=AE**

**RE -> AE·<AE**

**RE -> AE·<=AE**

**RE -> AE·!=AE**

**RE -> AE·==AE**

# 状态5

**AE->(·AE)**

**AE->·AE OP AE**

**AE->·(AE)**

**AE->·id**

**AE->·num**

# 状态6

**AE->num·**

# 状态7

**AE->id·**

# 状态8

**IfSt->if ·(E) {SL} else {SL}**

**IfSt->if ·(E) {SL}**

# 状态9

**WhileSt->while· (E) {SL}**

# 状态10

**BreakSt->break·;**

# 状态11

**ContinueSt->contine·;**

# 状态12

**ReturnSt->return· E;**

# 状态13

**S->IfSt·**

# 状态14

**S->WhileSt·**

# 状态15

**S->BreakSt·**

# 状态16

**S->ContinueSt·**

# 状态17

**S->ReturnSt·**

# 状态18

**LE->RE·**

# 状态19

**LE->!·LE**

**AE->·AE OP AE**

**AE->·(AE)**

**AE->·id**

**AE->·num**

**RE->·AE>AE**

**RE->·AE>=AE**

**RE->·AE<AE**

**RE->·AE<=AE**

**RE->·AE!=AE**

**RE->·AE==AE**

**LE->·RE**

**LE->·LE&&LE**

**LE->·LE||LE**

**LE->·!LE**

# 状态20

**LE->LE·&&LE**

**LE->LE·||LE**

**E->LE·**

# 状态21

**S->E;·**

# 状态22

**AE->AE OP ·AE**

**AE->·AE OP AE**

**AE->·(AE)**

**AE->·id**

**AE->·num**

# 状态23

**RE->AE>·AE**

**RE->AE>·=AE**

**AE->·AE OP AE**

**AE->·(AE)**

**AE->·id**

**AE->·num**

# 状态24

**RE->AE<·AE**

**RE->AE<·=AE**

**AE->·AE OP AE**

**AE->·(AE)**

**AE->·id**

**AE->·num**

# 状态25

**RE->AE=·=AE**

# 状态26

**AE->(AE·)**

**AE->AE· OP AE**

# 状态27

**AE->id·**

# 状态28

**AE->num·**

# 状态29

**RE ->AE OP AE·**

**RE ->AE ·OP AE**

# 状态30

**RE -> AE > = · AE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

# 状态31

**AE ->AE > AE·**

**AE->AE · OP AE**

# 状态32

**RE -> AE <= ·AE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

# 状态33

**AE ->AE < AE·**

**AE->AE · OP AE**

# 状态34

**RE ->AE = = · AE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

# 状态35

**AE ->（ AE ）·**

# 状态36

**AE ->AE >= AE·**

**AE->AE · OP AE**

# 状态37

**AE ->AE <= AE·**

**AE->AE · OP AE**

# 状态38

**AE ->AE = = AE·**

**AE->AE · OP AE**

# 状态39

**AE ->AE ! · = AE**

# 状态40

**RE ->AE ! = · AE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

# 状态41

**RE ->AE ! = AE·**

**AE ->AE · OP AE**

# 状态42

**AE ->AE ·OP AE**

**RE -> AE·>AE**

**RE -> AE·>=AE**

**RE -> AE·<AE**

**RE -> AE·<=AE**

**RE -> AE·!=AE**

**RE -> AE·==AE**

# 状态43

**LE -> ! LE·**

**LE ->LE · && LE**

**LE ->LE · || LE**

# 状态44

**LE ->LE &·& LE**

# 状态45

**LE ->LE |·| LE**

# 状态46

**LE ->LE && ·LE**

**LE ->·RE**

**RE ->·AE > AE**

**RE ->·AE > = AE**

**RE ->·AE < AE**

**RE ->·AE < = AE**

**RE ->·AE ! = AE**

**RE ->·AE = = AE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

# 状态47

**LE ->LE || ·LE**

**LE ->·RE**

**RE ->·AE > AE**

**RE ->·AE > = AE**

**RE ->·AE < AE**

**RE ->·AE < = AE**

**RE ->·AE ! = AE**

**RE ->·AE = = AE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

# 状态48

**LE ->LE && LE·**

# 状态49

**LE ->LE || LE·**

# 状态50

**IfSt->if (·E) {SL} else {SL}**

**IfSt->if (·E) {SL}**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

# 状态51

**IfSt->if (E·) {SL} else {SL}**

**IfSt->if (E·) {SL}**

# 状态52

**IfSt->if (E)· {SL} else {SL}**

**IfSt->if (E)· {SL}**

# 状态53

**IfSt->if (E) {·SL} else {SL}**

**IfSt->if (E) {·SL}**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态54

**IfSt->if (E) { S · SL} else {SL}**

**IfSt->if (E) { S · SL}**

**SL->S · SL**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态55

**fSt->if (E)· {SL} else · {SL}**

# 状态56

**IfSt->if (E)· {SL} else {·SL}**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态57

**ReturnSt -> return E ;·**

# 状态58

**WhileSt (·E) { SL }**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

# 状态59

**I WhileSt (E · ) { SL }**

# 状态60

**I WhileSt (E)· { SL }**

# 状态61

**WhileSt (E) {· SL }**

# 状态62

**OP -> + ·**

# 状态63

**OP -> - ·**

# 状态64

**OP -> \* ·**

# 状态65

**OP -> / ·**

# 状态66

**ContinueSt -> continue; ·**

# 状态67

**BreakSt -> break; ·**

# 状态68

**IfSt->if (E)· {SL} else {SL} ·**

# 状态69

**IfSt->if (E) {SL} else {SL} ·**

# 状态70

**WhileSt (E) { SL } ·**

# 状态70

**WhileSt (E) { SL } ·**

# 状态71

**IfSt->if (E) { SL} else {S · SL}**

**SL->S · SL**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态72

**WhileSt->while (E) { S · SL}**

**SL->S · SL**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**

# 状态73

**S->IfSt ·**

# 状态74

**S->WhileSt ·**

# 状态75

**S->BreakSt ·**

# 状态76

**S->ContinueSt ·**

# 状态77

**S->ReturnSt ·**

# 状态78

**SL->S ·**

# 状态79

**WhileSt (E) { SL · }**

# 状态80

**WhileSt (E) { IfSt · }**

**IfSt->if (E) { IfSt · }**

**IfSt->if (E) { SL } else { IfSt · }**

# 状态81

**WhileSt (E) { WhileSt · }**

**IfSt->if (E) { WhileSt · }**

**IfSt->if (E) { SL } else { WhileSt · }**

# 状态82

**WhileSt (E) { BreakSt · }**

**IfSt->if (E) { BreakSt · }**

**IfSt->if (E) { SL } else { BreakSt · }**

# 状态83

**WhileSt (E) { ContinueSt · }**

**IfSt->if (E) { ContinueSt · }**

**IfSt->if (E) { SL } else { ContinueSt · }**

# 状态84

**WhileSt (E) { ReturnSt · }**

**IfSt->if (E) { ReturnSt · }**

**IfSt->if (E) { SL } else { ReturnSt · }**

# 状态85

**IfSt->if (E) { SL } else { SL · }**

# 状态86

**IfSt->if (E) { SL · }**

# 状态87

**ReturnSt->return E · ;**

# 状态88

**ReturnSt->return E; ·**

# 状态89

**SL-> S ·**

**SL-> S · SL**

**SL-> ·S SL**

**SL->·S**

**S->·E;**

**S->·IfSt**

**S->·WhileSt**

**S->·BreakSt**

**S->·ContinueSt**

**S->·ReturnSt**

**E ->·AE**

**E ->·RE**

**E ->·LE**

**AE ->·AE OP AE**

**AE ->·(AE)**

**AE ->·id**

**AE ->·num**

**RE ->·AE>AE**

**RE ->·AE>=AE**

**RE ->·AE<AE**

**RE ->·AE<=AE**

**RE ->·AE!=AE**

**RE ->·AE==AE**

**LE ->·RE**

**LE ->·LE&&LE**

**LE ->·LE||LE**

**LE ->·!LE**

**IfSt->·if (E) {SL} else {SL}**

**IfSt->·if (E) {SL}**

**WhileSt->·while(E){SL}**

**BreakSt->·break;**

**ContinueSt->·contine;**

**ReturnSt->·return E;**