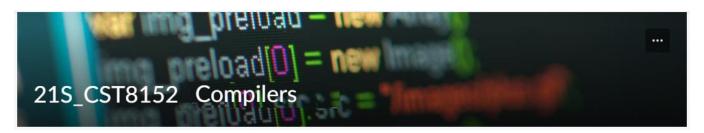**ALGONQUIN COLLEGE**

21S_CST8152 Compilers

MODEL TASK[1] FOR ASSIGNMENT 2.1 – MAMBA

Team: [Savas Erturk] - Id: [040919022]

PART 1: RE – Regular Expression (1.5 mark)

Lexeme Classes: Define the classes to be used in your regular expression:

Lexeme Classes

U : [_]   Underscore
L : [A-Za-z]   Letters
D : [0-9]   Numbers
Q: "   String Literals
OC: [^LDUQ]   Other Chars
T= :   Method name identifier

MNID = L(L|D|U)*T
SL=Q[^Q]*Q

* Variables:

Mamba is a case-sensitive programming language. This means that it treats uppercase and lowercase letter differently.

Example(declaring a variable);

age=66;
Age=27
print(age);   //returns 66
print(Age); //returns 27

* Keywords:

Define the RE to be used for: variables, literals and keywords:

False	class	from	or
None	continue	global	pass
True	def	if	raise
and	del	import	return
as	elif	in	try
assert	else	is	while
async	except	lambda	with
await	finally	nonlocal	yield
break	for	not	sapla

PART 2: TD – Transition Diagram (1.5 marks)

Activity: Starting from the previous lexeme classes and obeying the RE, it is possible to define the automata for your language:

Answer (draw / copy image of the automata):

PART 3: TT – Transition Table (2 marks)

Activity: Now, it is possible to define the TT for these lexemes:

Answer (Transition Table):

STATE	0	1	2	3	4	5	TYPE
	L(A-Z)	D(0-9)	U(_)	T(:)	Q(")	OC()	-
S0	1	ESNR	ESNR	ESNR	4	ESNR	NOAS[0]
S1	1	1	1	2	3	3	NOAS[1]
S2	FS	FS	FS	FS	FS	FS	ASNR[SL]
S3	FS	FS	FS	FS	FS	FS	ASWR(KEY)
S4	4	4	4	4	5	4	NOAS[4]
S5	FS	FS	FS	FS	FS	FS	ASNR(MNID)

Update: Oct 2nd 2022.