

CC Assignment #01

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Section: G-01

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① Language Overview

I have named my mini C++ like language **Mavlang** which stands for **Maverick** language. The name is inspired by the Movie **Top Gun: Maverick**, which is about confidence, speed and perfection in mission critical environment, and my personal favourite.

Theme Explanation:-

The theme of **Mavlang** is based on aviation & mission control. Every part of the syntax feel like giving a flight command & executing a given mission.

Purpose:-

Just like real aircrafts systems and robotics software, **MarLang** is to simulate command based or mission-critical tasks

In short **MarLang** feels like flying.

⇒ ② Keywords:-

Keyword.	Meaning / Equivalent.	Example usage.
launch	Start program / Main function	launch { }
target	variable declaration int type	target speed = 900;
lock	If condition (like if)	lock (altitude > 1000)
elsejet	Else condition	elsejet { }
loopback	For loop	loopback (i=0; i<5; i++)
runway	While loop	runway (fuel > 0)
mission	Function definition	mission calculateSpeed() { }
engage	Call function	engage calculateSpeed()
eject	Exit / break	eject;
afterburn	increases variable like ++	speed afterburn;
stall	stop execution temp. like pause.	stall (5);
signal	print / output	signal "Mission started";
readjet	Input / read data	readjet speed;
flightpath	Array or list	flightpath angles [10];
debrief	Return Statement	debrief results;
altitude	float type	altitude high = 9.0;
airspeed	String	airspeed aircraft = "too low"
charcode	character	charcode At = 'S';
Switch	bool type	to Switch A = 1;

⇒ ③ operators & Punctuations.

Category	Symbol	Description
Operator	+	Addition
Operator	-	Subtraction
Operator	*	Multiplication
Operator	/	Division
Operator	==	Comparison
Punctuation	{ }	Code Block Delimiter
Punctuation	;	End of Statement
Punctuation	()	Expression Grouping

⇒ ④ Regular Expression.

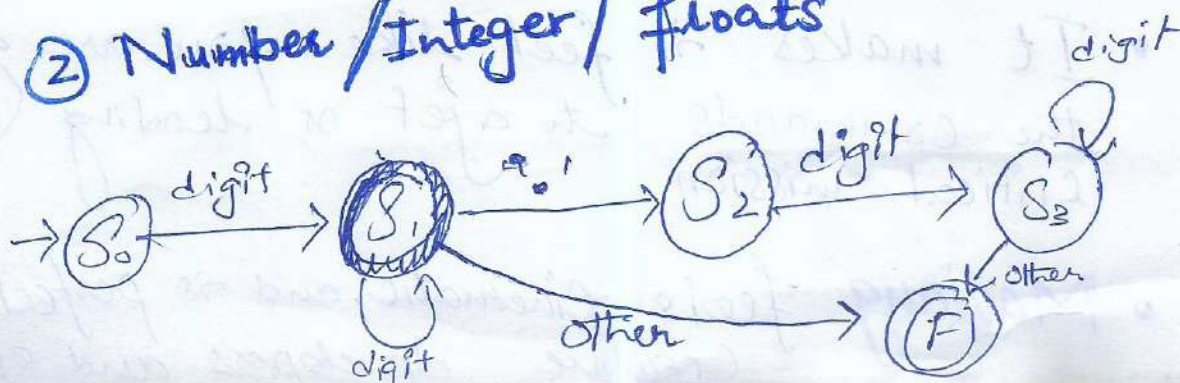
Token Type	Regular Expression	Example
Identifier	$[a-zA-Z][a-zA-Z0-9]^*$	Speed, Altitude
Integer	$[0-9]^+$	900
Float	$[0-9]^+\backslash\cdot[0-9]^+$	123.45, 0.45
Keyword	'launch'	lock
Operator	'+'	-
String	$\backslash"[^\\"]*" \backslash"$	"mission started"

⇒ ⑤ Finite Automata

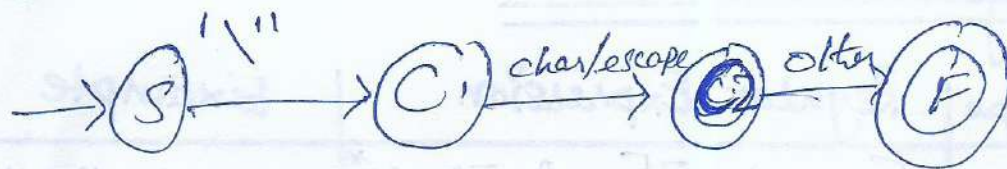
① identifier



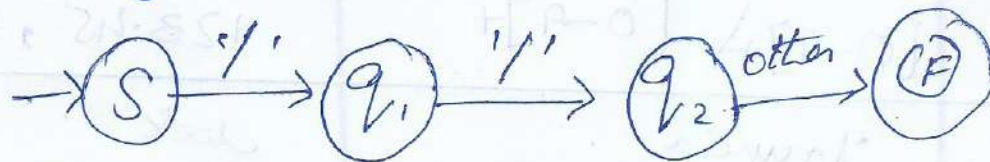
② Number / Integer / floats



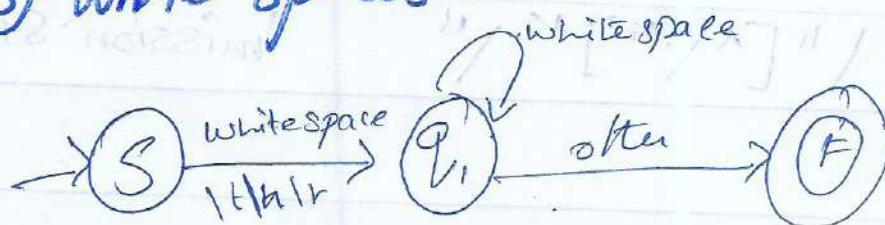
③ Character literals



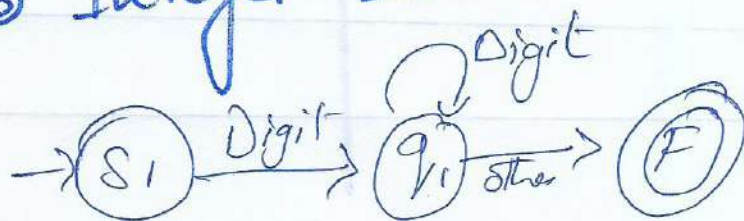
④ Single line Comment.



⑤ White spaces



⑥ Integer literals



⑥ Explanation:-

- My language keywords are inspired by Top Gun: Maverick Movie.
- It makes it feel like you are giving the commands to a jet or leading a critical mission.
- Mavlang feels cinematic, and is perfect for creative developers and students.