

CSAI 385: Compiler Design

Course Project

- The project is a teamwork project (groups of 3 maximum).
- You can choose any programming language for the project.
- Discussion due dates:
 - Phase 1 submission: **Saturday 10/5/2025**
 - Phase 2 and Phase 3 submission: **Saturday 24/5/2025****Note: Discussion Dates will be announced later**
- Project grading schema:
 - Phase 1: **5 marks**
 - Phase 2: **10 marks**
 - Discussion: **5 marks**
 - Phase 3: **Bonus marks**

Phase 1: Scanner

Identifiers	Symbols		Reserved Words
int	+	Operators	for
float	-		while
string	/		if
double	%		do
bool	*		return
char	(Open Bracket	break
)	Close Bracket	continue
	{	Open Curly Bracket	end
	}	Close Curly Bracket	
	,	Comma	
	;	Semicolon	
	&&	And	
		Or	
	<	Less than	
	>	Greater than	
	=	Equal	
	!	Not	
Variables			

1.

Identifier — Variable

Variable <= Variable ;
Number Operator ;

2.

Variable <= Variable ;
Number Operator ;

3.

if — (— Variable — ! — < — > — = — Number — && — || — Variable —) — { — any characters — }

4. For and While Loops

Phase 3: Memory

Design a memory to save variable's values.

For example

```
int x = 0 ;
int y = 4 ;
x = 2 * y ;
```

Memory Output

```
x=0
y=4
x=6
```

For example

```
int x = 0 ;
int y = 4 ;
x = 2 * y ;
```

$$\begin{array}{l} x=0 \\ y=4 \\ x=6 \end{array}$$