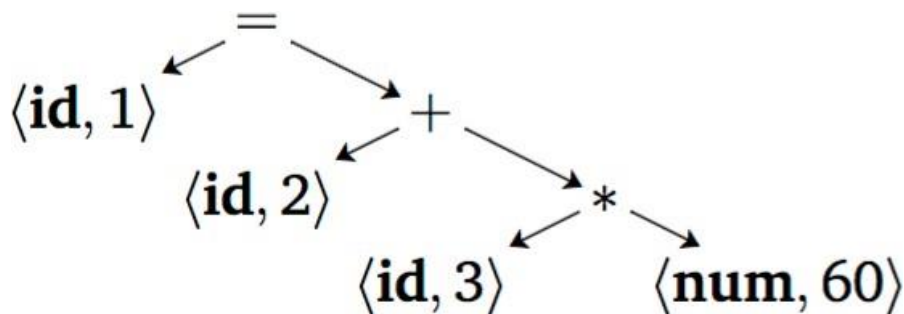


Compiler Construction

Tree Construction (Syntax Checking)

`position = initial + rate * 60`

1	position
2	initial
3	rate



Testing by giving a text file with sample code.

```
Int main ()
{
    Int a, b, sum;
    Sum=0;
    Sum=3+4-5;
    A=2;
    B=3;
    Sum=a+b;
}
```

Solution:

Screenshots:

Valid inputs: (Tree printed in inorder parsing)

This screenshot shows the Visual Studio IDE with the 'Source.cpp' file open. The code is in the process of building a tree for the input 'a=3+4;'. The 'Microsoft Visual Studio Debug Console' window displays the following output:

```
Node Name: NUM
Node Value: 3
Node Oprtr: 0

Node Name: PLUS
Node Value: 0
Node Oprtr: 4

Node Name: NUM
Node Value: 4
Node Oprtr: 0

Node Name: EQUAL
Node Value: 0
Node Oprtr: 19

Node Name: a
Node Value: 0
Node Oprtr: 37

Successful
```

The 'Output' window at the bottom shows the build process completed successfully.

This screenshot shows the Visual Studio IDE with the 'Source.cpp' file open. The code is in the process of building a tree for the input 'if(6==6){a=2+1;}END'. The 'Microsoft Visual Studio Debug Console' window displays the following output:

```
Node Name: NUM
Node Value: 6
Node Oprtr: 0

Node Name: EQUALITY
Node Value: 0
Node Oprtr: 18

Node Name: NUM
Node Value: 6
Node Oprtr: 0

Node Name: IF
Node Value: 0
Node Oprtr: -842150451

Node Name: NUM
Node Value: 2
Node Oprtr: 0

Node Name: PLUS
Node Value: 0
Node Oprtr: 4

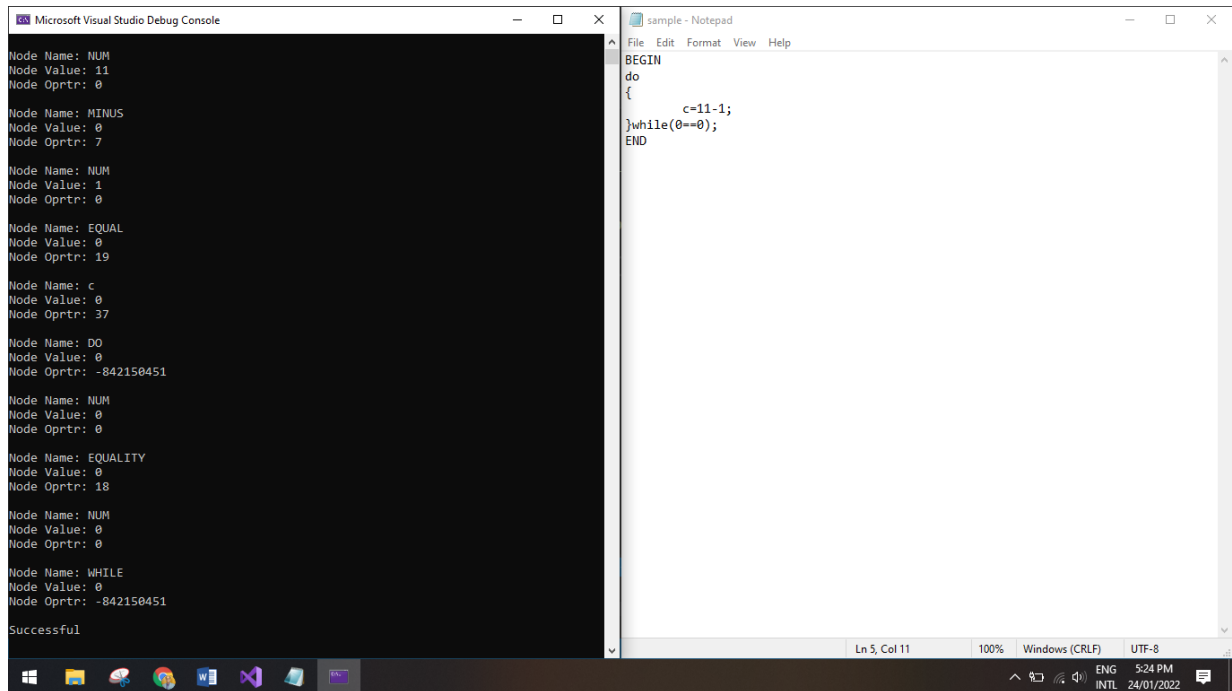
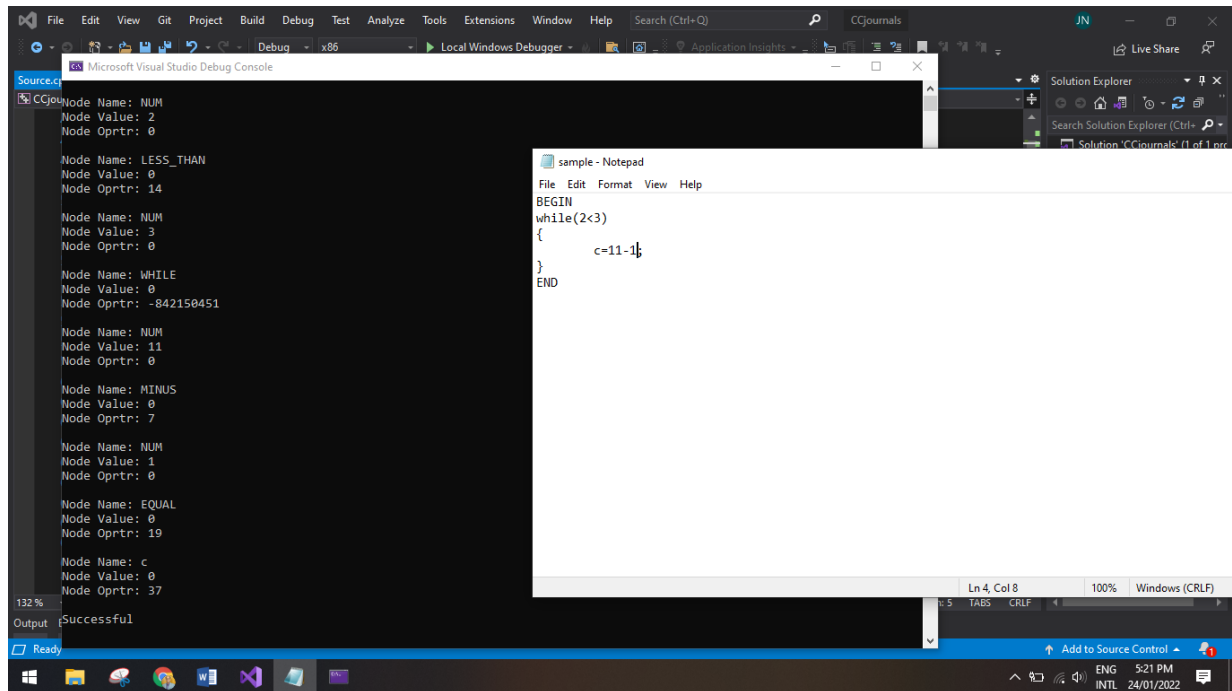
Node Name: NUM
Node Value: 1
Node Oprtr: 0

Node Name: EQUAL
Node Value: 0
Node Oprtr: 19

Node Name: a
Node Value: 0
Node Oprtr: 37

Successful
```

The 'Output' window at the bottom shows the build process completed successfully.



Microsoft Visual Studio Debug Console

Node Name: NUM
Node Value: 1
Node Oprtr: 0

Node Name: EQUAL
Node Value: 0
Node Oprtr: 19

Node Name: q
Node Value: 0
Node Oprtr: 37

Node Name: NUM
Node Value: 1
Node Oprtr: 0

Node Name: PLUS
Node Value: 0
Node Oprtr: 4

Node Name: NUM
Node Value: 1
Node Oprtr: 0

Node Name: EQUAL
Node Value: 0
Node Oprtr: 19

Node Name: q
Node Value: 0
Node Oprtr: 37

Node Name: ELSE
Node Value: 0
Node Oprtr: -842150451

Successful

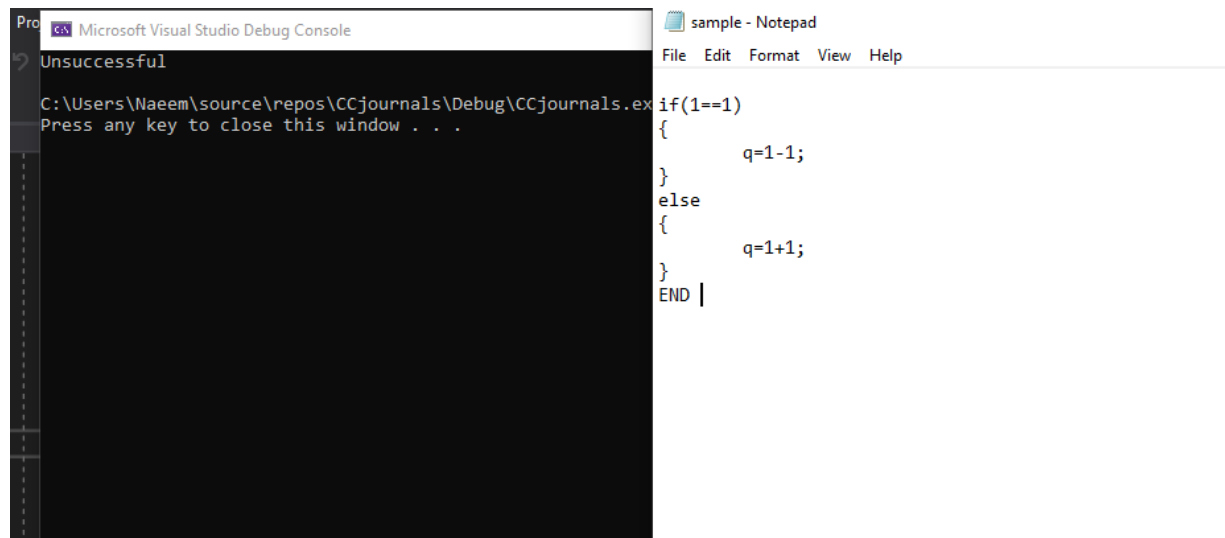
C:\Users\Naeem\source\repos\CCjournals\Debug\CCjournals.exe (process 3156) exited with code 0.
Press any key to close this window . . .

sample - Notepad

File Edit Format View Help
BEGIN
if(1==1)
{
 q=1-1;
}
else
{
 q=1+1;
}
END

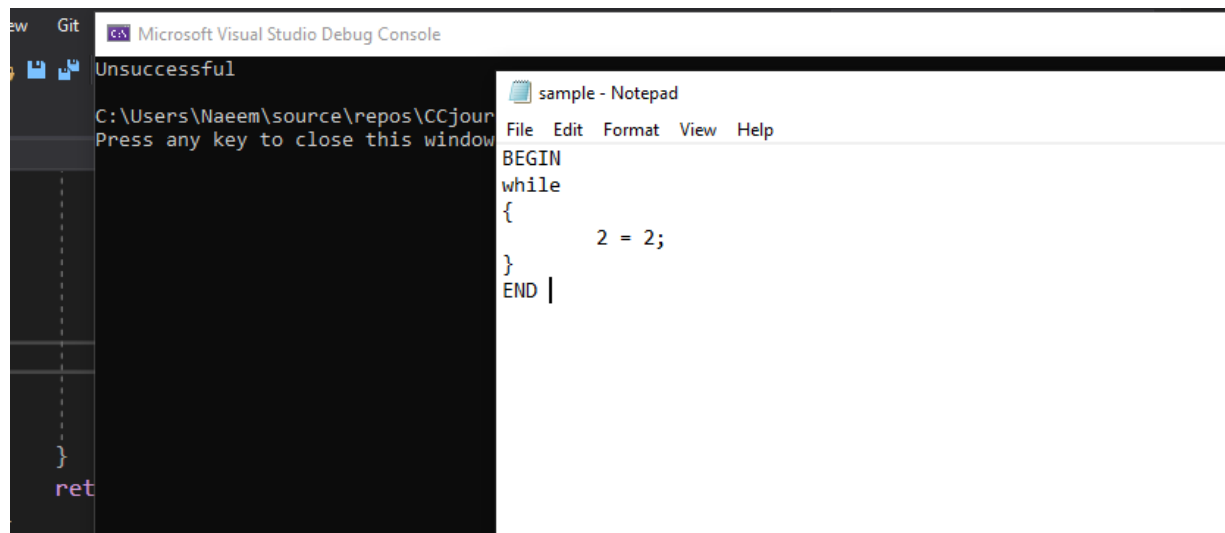
Ln 8, Col 8100%Windows (CRLF)UTF-8

Invalid inputs:



The screenshot shows two windows. On the left is the 'Microsoft Visual Studio Debug Console' with the title bar 'Pro...'. It displays the text 'Unsuccessful' and the command prompt path 'C:\Users\Naeem\source\repos\CCjournals\Debug\CCjournals.exe'. Below this, it says 'Press any key to close this window . . .'. On the right is a 'sample - Notepad' window with a menu bar (File, Edit, Format, View, Help). It contains the following code:

```
if(1==1)
{
    q=1-1;
}
else
{
    q=1+1;
}
END |
```



The screenshot shows two windows. On the left is the 'Microsoft Visual Studio Debug Console' with the title bar 'ew Git'. It displays the text 'Unsuccessful' and the command prompt path 'C:\Users\Naeem\source\repos\CCjour'. Below this, it says 'Press any key to close this window'. On the right is a 'sample - Notepad' window with a menu bar (File, Edit, Format, View, Help). It contains the following code:

```
BEGIN
while
{
    2 = 2;
}
END |
```

```
Microsoft Visual Studio Debug Console
Unsuccessful
C:\Users\Naeem\source\repos\CC
Press any key to close this wi

sample - Notepad
File Edit Format View Help
BEGIN
a &= 2!2;
END |
```

```
Microsoft Visual Studio Debug Console
Unsuccessful
C:\Users\Naeem\source\repos\CC
Press any key to close this wi

sample - Notepad
File Edit Format View Help
BEGIN
do
    b = 2;
}while(5==5);
END |
```