

Experiment – 8

```
#include <stdio.h>
#include <string.h>

struct Symbol {
    char name[20], type[10];
    int address;
};

struct Symbol table[100];

int count = 0;

void insert(char name[], char type[], int address) {
    strcpy(table[count].name, name);
    strcpy(table[count].type, type);
    table[count].address = address;
    count++;
}

int search(char name[]) {
    for (int i = 0; i < count; i++) {
        if (strcmp(table[i].name, name) == 0)
            return i;
    }
    return -1;
}

void display() {
    for (int i = 0; i < count; i++) {
        printf("%s\t%s\t%d\n", table[i].name, table[i].type, table[i].address);
    }
}

int main() {
    insert("x", "int", 100);
```

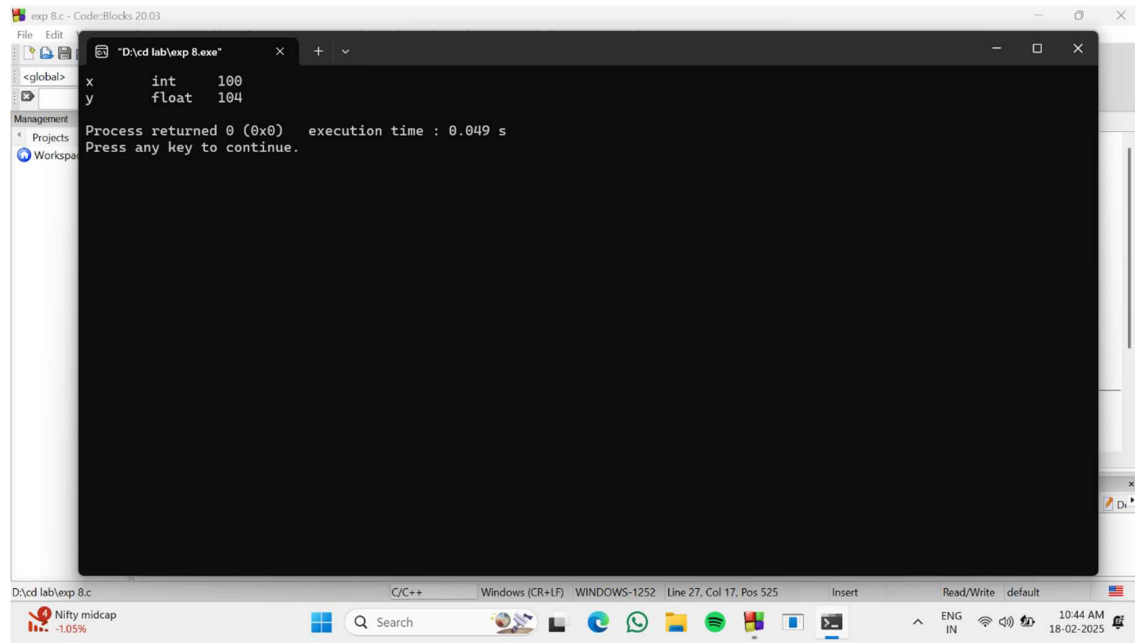
```

insert("y", "float", 104);

display();

return 0;
}

```



Experiment – 9

```

#include <stdio.h>

#include <string.h>

int checkGrammar(char str[], int start, int end) {
    if (start > end) return 1;
    if (str[start] == 'a' && str[end] == 'b')
        return checkGrammar(str, start + 1, end - 1);
    return 0;
}

int main() {
    char str[] = "aabb";
    if (checkGrammar(str, 0, strlen(str) - 1))
        printf("Valid Grammar\n");
}

```

```

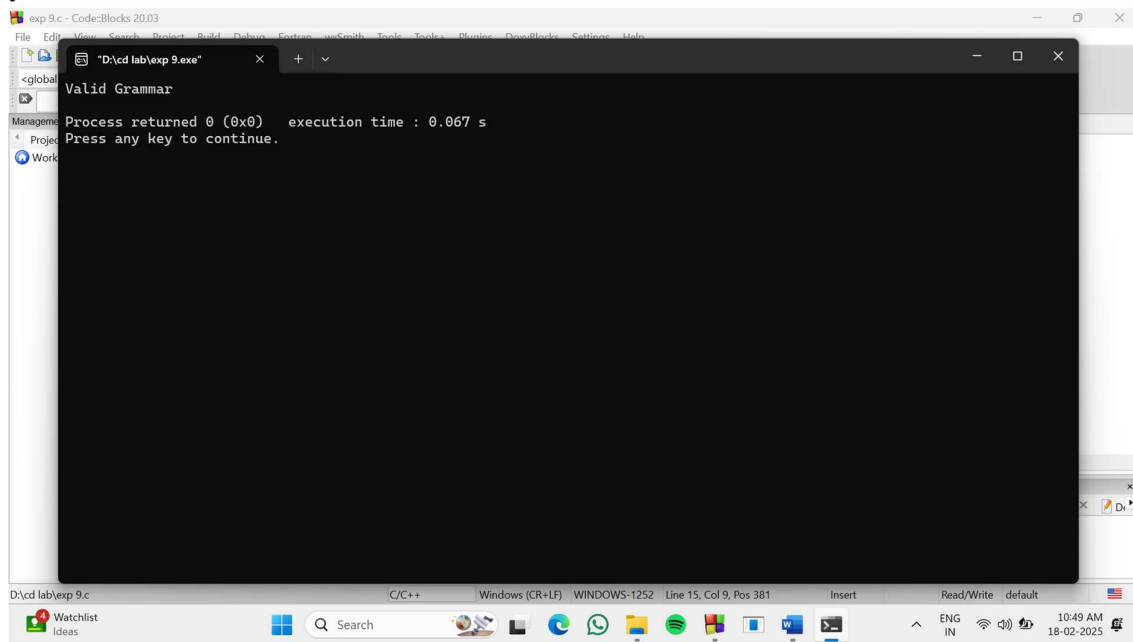
else

    printf("Invalid Grammar\n");

return 0;

}

```



Experiment – 10

```

#include <stdio.h>

#include <string.h>

char *input;

void E(), T();

void E() {

    if (*input == 'a') {

        input++;

        T();

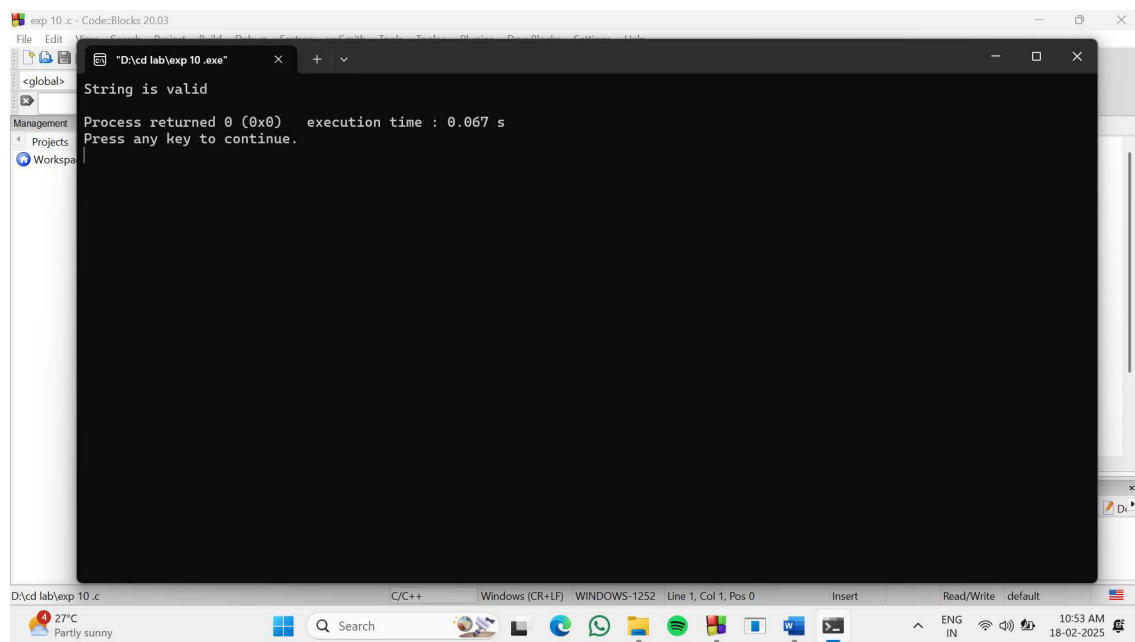
    }

}

void T() {

```

```
    if (*input == 'b') {  
        input++;  
    }  
}  
  
int main() {  
    char str[] = "ab";  
    input = str;  
    E();  
    if (*input == '\\0')  
        printf("String is valid\\n");  
    else  
        printf("String is invalid\\n");  
    return 0;  
}
```



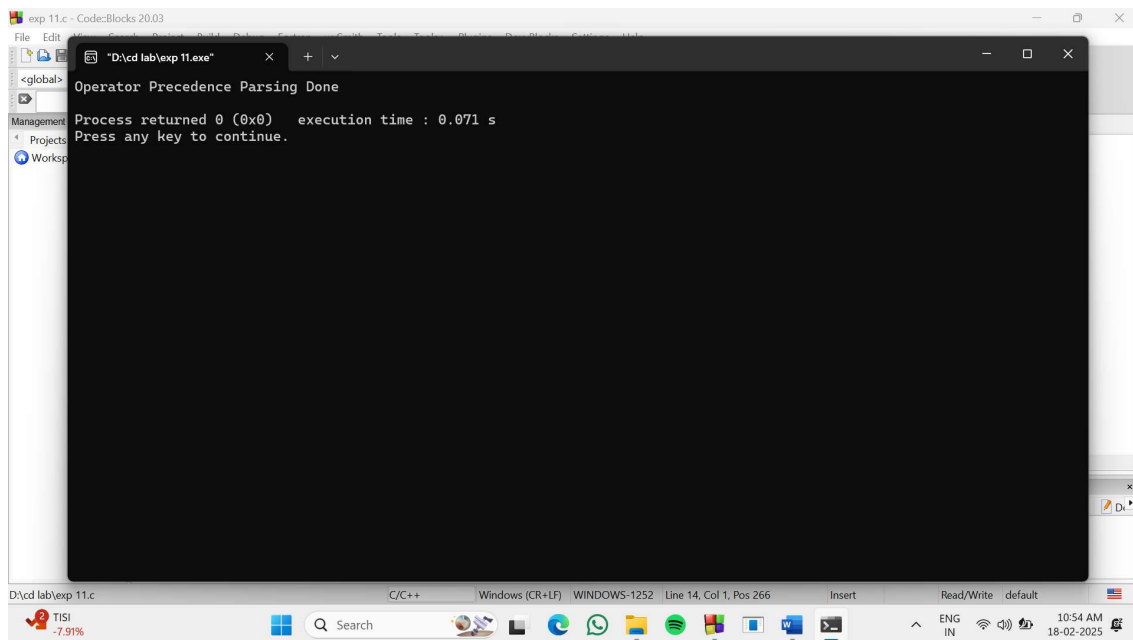
The screenshot shows a Windows desktop environment. In the background, a CodeBlocks IDE window titled "exp 10.c - CodeBlocks 20.03" is open. In the foreground, a terminal window titled "D:\\cd lab\\exp 10.exe" is running. The terminal displays the output "String is valid" and "Process returned 0 (0x0) execution time : 0.067 s". Below this, it says "Press any key to continue." The Windows taskbar at the bottom shows the date and time as 10:53 AM on 18-02-2025, along with various system icons and the search bar.

Experiment – 11

```
#include <stdio.h>

int precedence(char op) {
    if (op == '+' || op == '-') return 1;
    if (op == '*' || op == '/') return 2;
    return 0;
}

int main() {
    char expr[] = "3+5*2";
    printf("Operator Precedence Parsing Done\n");
    return 0;
}
```



Experiment – 12

```
#include <stdio.h>
```

```
int main() {
```

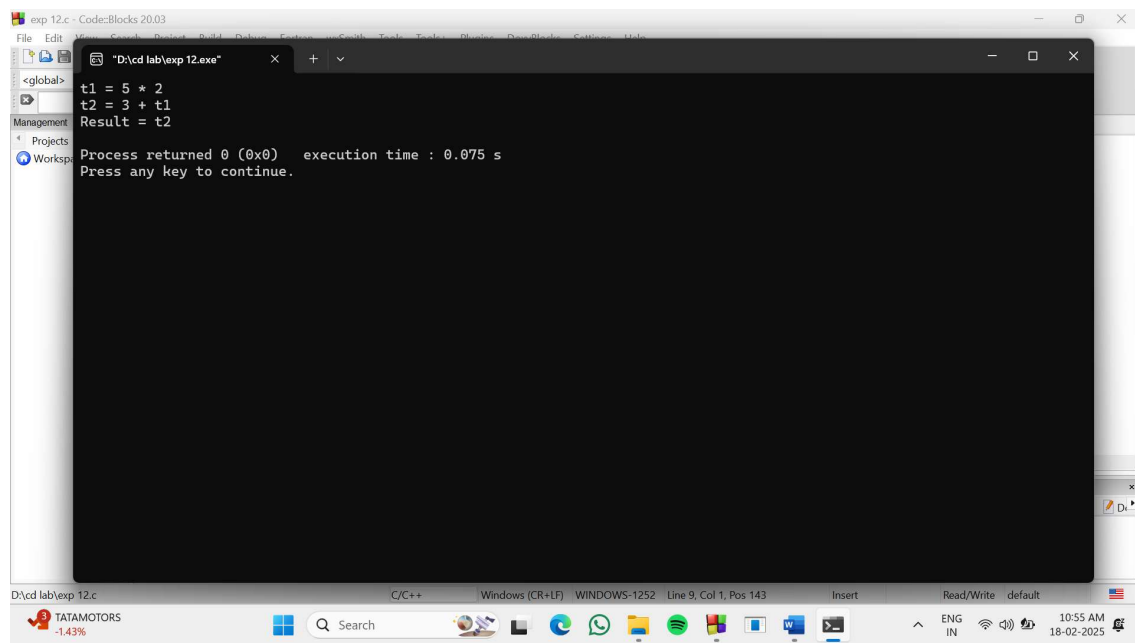
```
    printf("t1 = 5 * 2\n");
```

```
    printf("t2 = 3 + t1\n");
```

```
    printf("Result = t2\n");
```

```
    return 0;
```

```
}
```



The screenshot displays a Windows desktop environment. In the foreground, a Code-Blocks IDE window titled "exp 12.c - Code-Blocks 20.03" is open, showing the C code for Experiment 12. Below the IDE, a terminal window titled "D:\cd lab\exp 12.exe" is running, displaying the output of the program: "t1 = 5 * 2", "t2 = 3 + t1", "Result = t2", and "Process returned 0 (0x0) execution time : 0.075 s". The taskbar at the bottom shows various application icons, including the Start button, Search, and several open applications like File Explorer, WhatsApp, and a web browser. The system clock in the bottom right corner indicates the time is 10:55 AM on 18-02-2025.

Experiment – 13

```
#include <stdio.h>
```

```
int main() {
```

```
    char str[] = "Hello World\nThis is a test";
```

```
    int chars = 0, words = 1, lines = 1;
```

```
    for (int i = 0; str[i] != '\0'; i++) {
```

```
        chars++;
```

```
        if (str[i] == ' ') words++;
```

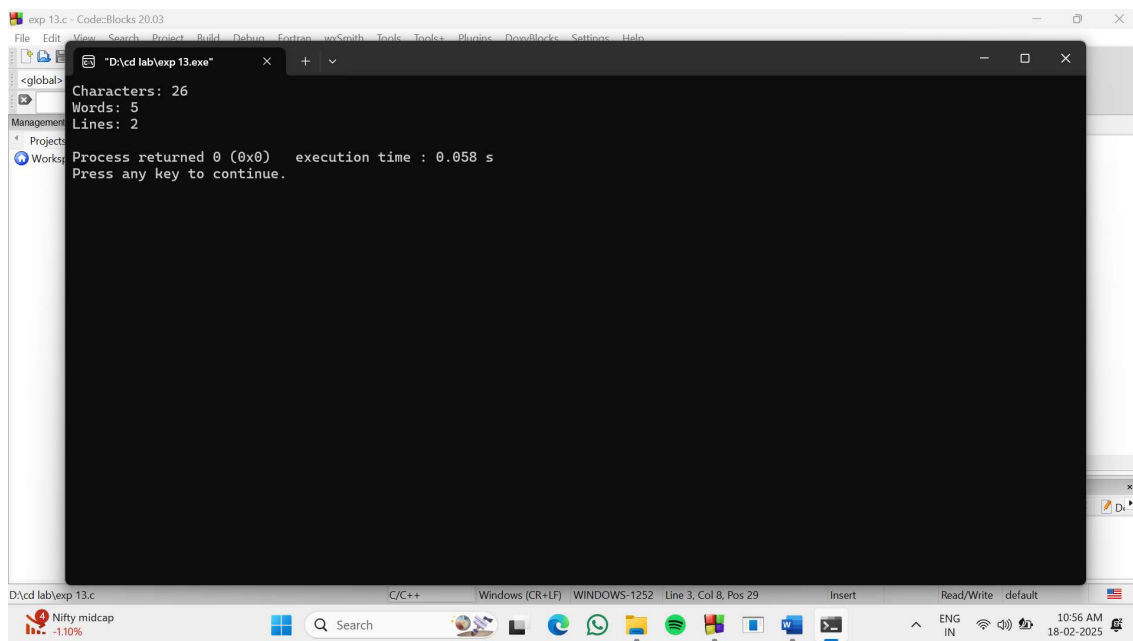
```
        if (str[i] == '\n') lines++;
```

```
    }
```

```
    printf("Characters: %d\nWords: %d\nLines: %d\n", chars, words, lines);
```

```
    return 0;
```

```
}
```



```
exp 13.c - Code::Blocks 20.03
File Edit View Search Project Build Debugger FontSettings Tools Tracks Plugins DownBlocks Settings Help
D:\cd lab\exp 13.exe
Characters: 26
Words: 5
Lines: 2
Process returned 0 (0x0) execution time : 0.058 s
Press any key to continue.
```

Experiment – 14

```
#include <stdio.h>
```

```
int main() {
```

```
    int a = 5, b = 2;
```

```
    int t1 = a * b;
```

```
    int x = t1 + 3;
```

```
    int y = t1 + 4;
```

```
    printf("x = %d, y = %d\n", x, y);
```

```
    return 0;
```

```
}
```

