Experiment – 15

```c
#include <stdio.h>

#include <ctype.h>

#include <string.h>

#define MAX_TOKEN_LENGTH 50

void tokenize(char *code) {

    char token[MAX_TOKEN_LENGTH];

    int i = 0, j = 0;

    while (code[i] != '\0') {

        if (isalpha(code[i])) {

            j = 0;

            while (isalnum(code[i]) || code[i] == '_') {

                token[j++] = code[i++];

            }

            token[j] = '\0';

            printf("Identifier: %s\n", token);

        } else if (isdigit(code[i])) {

            j = 0;

            while (isdigit(code[i])) {

                token[j++] = code[i++];

            }

            token[j] = '\0';

            printf("Number: %s\n", token);

        } else if (strchr("+-*/=;{}", code[i])) {

            printf("Operator/Symbol: %c\n", code[i++]);

        } else {

            i++;

        }

    }

}

int main() {
```
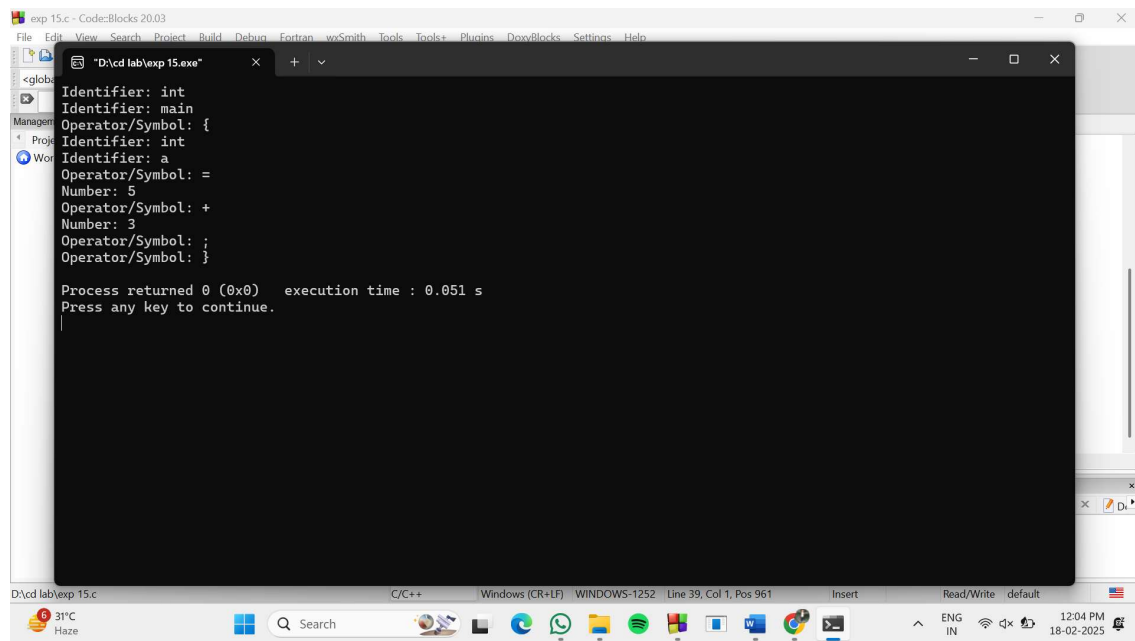
```
  char code[] = "int main() { int a = 5 + 3; }";

  tokenize(code);

  return 0;

}
```

Experiment – 16

```c
#include <stdio.h>

int main()

{

    int number1, number2, sum;

printf("Enter two integers: ");

scanf("%d %d", &number1, &number2);

sum = number1 + number2;

 printf("%d + %d = %d", number1, number2, sum);

 return 0;

}
```
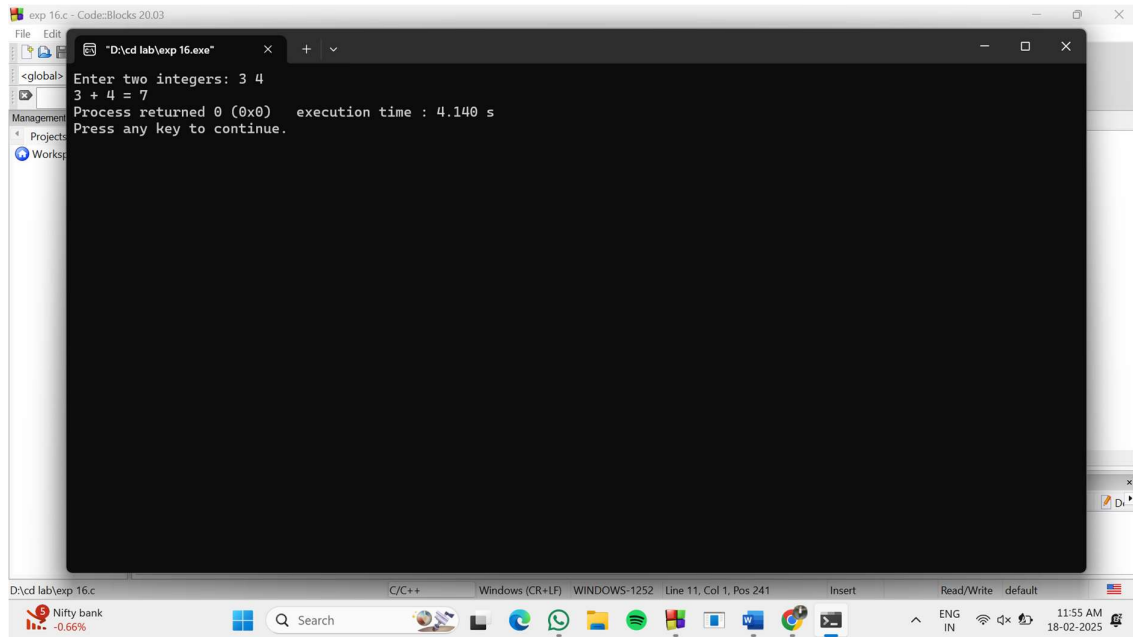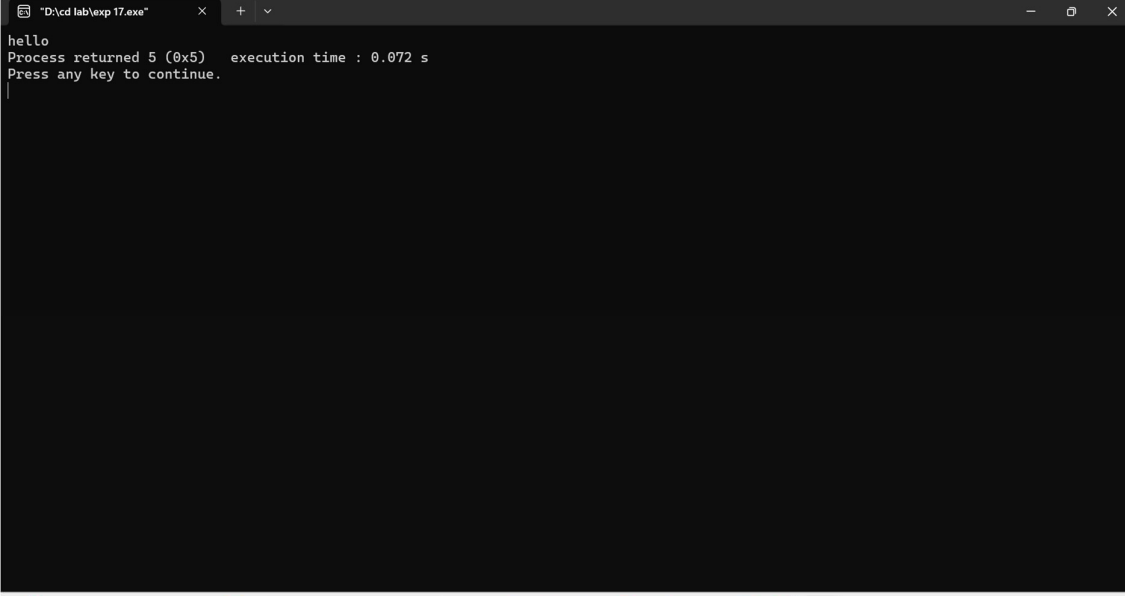
Experiment – 17

#define PI 3.14

#include<stdio.h> #include<conio.h>

 void main()

{

       int a,b,c = 30;

       printf("hello");

}

```
hello
Process returned 5 (0x5)    execution time : 0.072 s
Press any key to continue.
```

Experiment – 18

```c
#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "#define PI 3.14\n#include<stdio.h>\n#include<conio.h>\nint main() { return 0; }\n";
    int macro_count = 0, header_count = 0;
    printf("Input Source Program:\n%s\n\n", str);
    char *line = strtok(str, "\n");
    while (line) {
        if (strncmp(line, "#define", 7) == 0) macro_count++;
        if (strncmp(line, "#include", 8) == 0) header_count++;
        line = strtok(NULL, "\n");
    }
    printf("Output:\nMacros: %d\nHeaders: %d\n", macro_count, header_count);
    return 0;
}
```
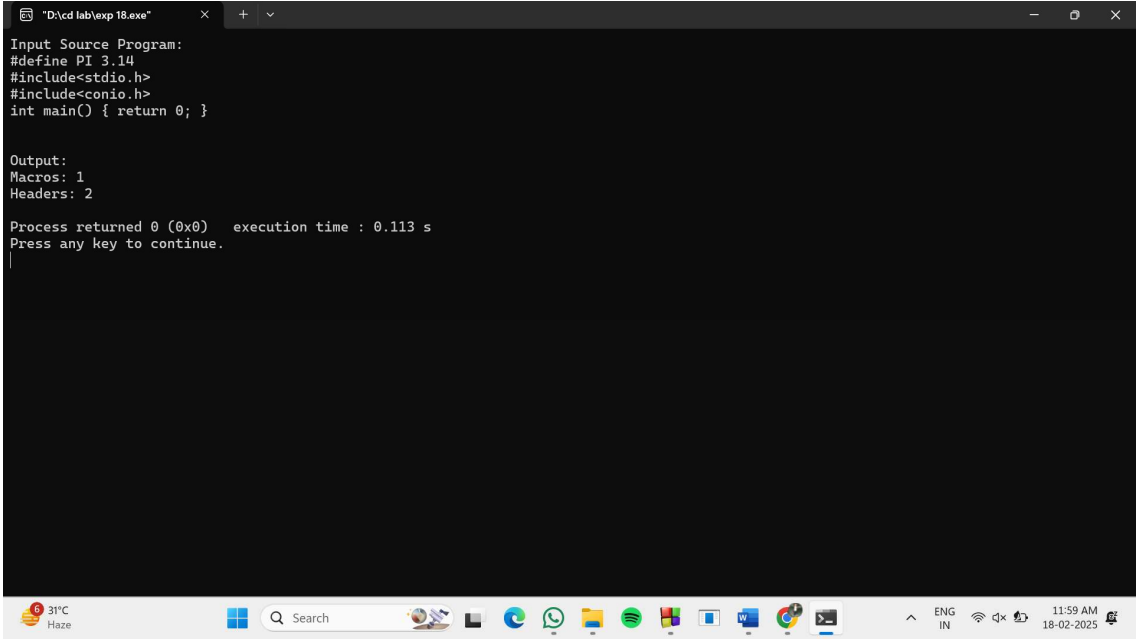
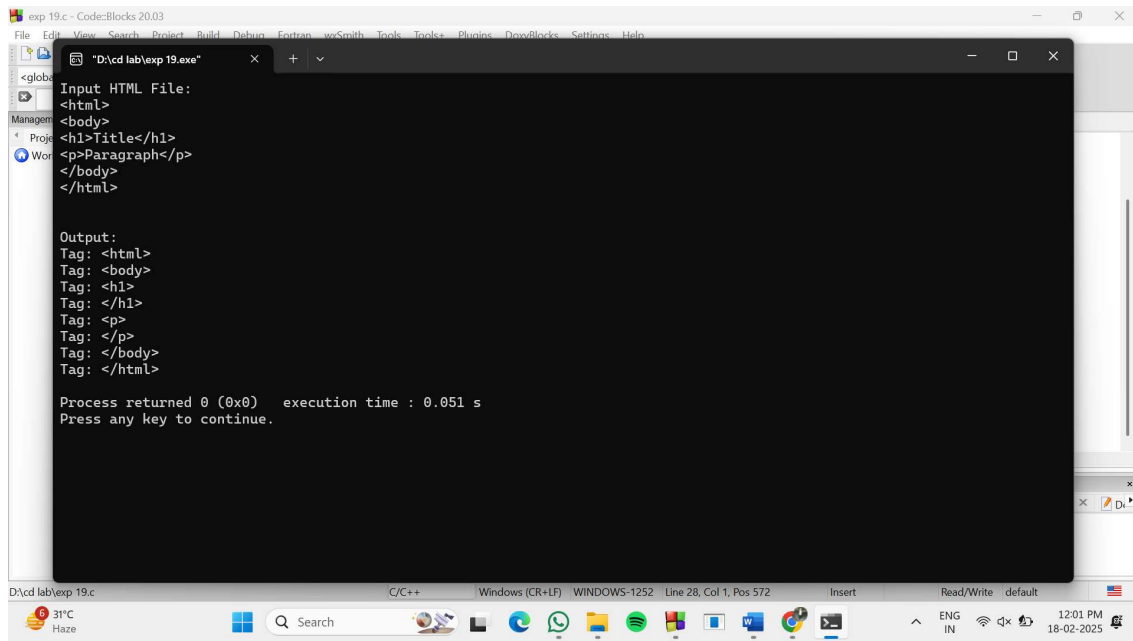# Experiment – 19

```c
#include <stdio.h>
int main() {
    char str[] =
"<html>\n<body>\n<h1>Title</h1>\n<p>Paragraph</p>\n</body>\n</html>\n";
    printf("Input HTML File:\n%s\n\n", str);
    printf("Output:\n");
    int inside_tag = 0;
    for (int i = 0; str[i] != '\0'; i++) {
        if (str[i] == '<') {
            inside_tag = 1;
            printf("Tag: ");
        }
        if (inside_tag) {
            printf("%c", str[i]);
        }
        if (str[i] == '>') {
            inside_tag = 0;
            printf("\n");
        }
    }
    return 0;
}
```

Experiment – 20

```c
#include <stdio.h>

int main() {
    char str[] = "#define PI 3.14\n#include<stdio.h>\nint main() {\n    int a = 10;\n
printf(\"Hello\");\n    return 0;\n}\n";

    int line_num = 1;

    printf("Input C Program:\n%s\n\n", str);

    printf("Output:\n");

    printf("%d: ", line_num++);

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

        printf("%c", str[i]);

        if (str[i] == '\n' && str[i + 1] != '\0') {

            printf("%d: ", line_num++);

        }

    }

    return 0;

}
```

```
Input C Program:
#define PI 3.14
#include<stdio.h>
int main() {
    int a = 10;
    printf("Hello");
    return 0;
}


Output:
1: #define PI 3.14
2: #include<stdio.h>
3: int main() {
4:     int a = 10;
5:     printf("Hello");
6:     return 0;
7: }

Process returned 0 (0x0)   execution time : 0.089 s
Press any key to continue.
```