BCSE307P – Compiler Design Lab

Winter Semester 2023-24

Assessment 8

Evaluating postfix notation in ICG

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Task:

Implementation of Postfix Notation

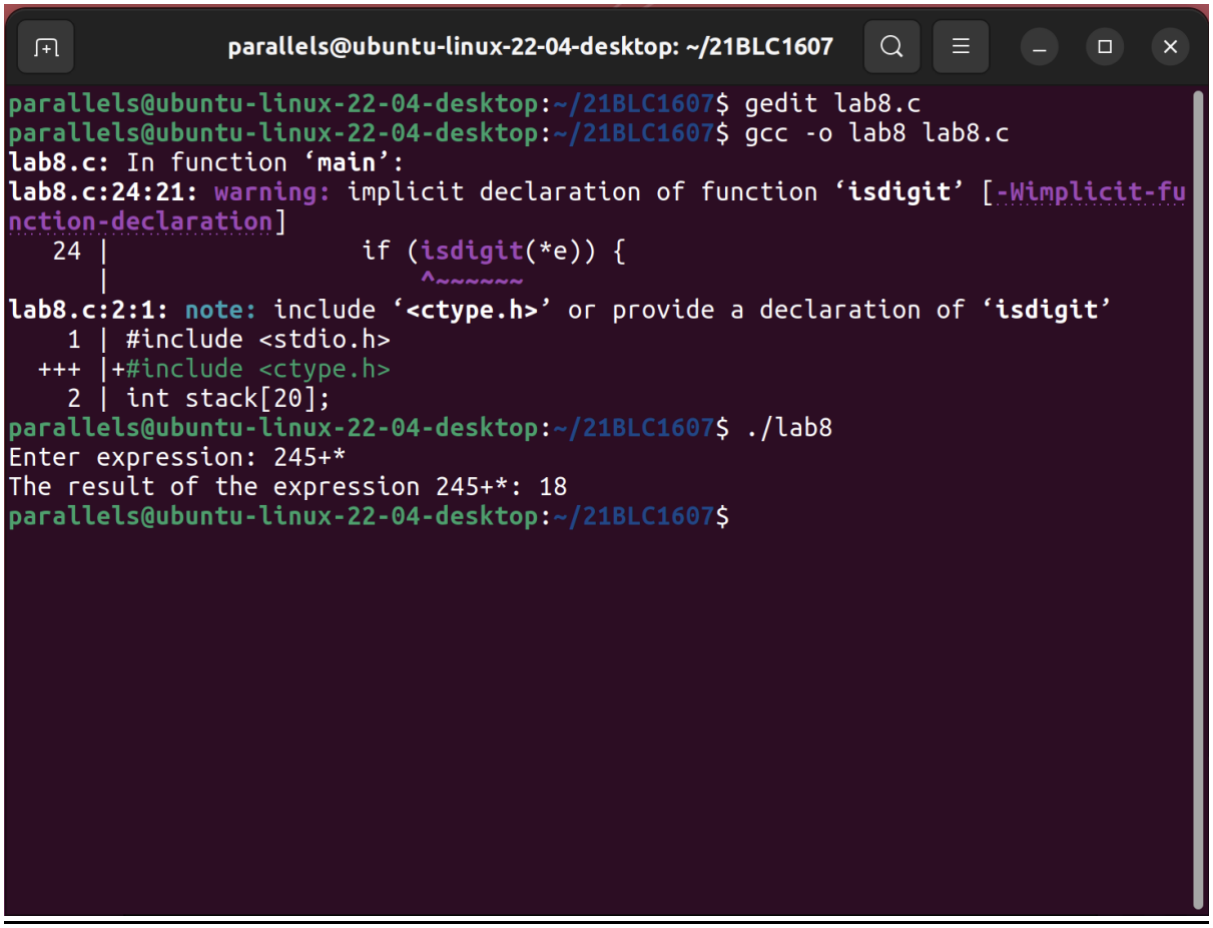
Code:

```
#include <stdio.h>

int stack[20];

int top = -1;


void push(int x) {

	stack[++top] = x;

}


int pop() {

	return stack[top--];

}




int main() {

	char exp[20];

	char *e;

	int n1, n2, n3, num;


	printf("Enter expression: ");

	scanf("%s", exp);

	e = exp;


	while (*e != '\0') {
```

```
        if (isdigit(*e)) {
                num = *e - 48;
                push(num);
        }
        else {
                n1 = pop();
                n2 = pop();
                switch (*e) {
                        case '+':
                                n3 = n1 + n2;
                                break;
                        case '-':
                                n3 = n2 - n1;
                                break;
                        case '*':
                                n3 = n1 * n2;
                                break;
                        case '/':
                                n3 = n2 / n1;
                                break;
                }
                push(n3);
        }
        e++;
}
printf("The result of the expression %s: %d\n", exp, pop());
```

```
    return 0;
}
```

Output:



Result:

Thus, the experiment has been successfully executed and verified.