28.8.24

Ex No:3 TOKENIZATION

**1.Program:**

#include <stdio.h>

#define KEYWORDS\_COUNT 10

int is\_keyword(char str[]) {

char keywords[KEYWORDS\_COUNT][10] = {"int", "float", "char", "double", "if", "else", "while", "for", "do", "elseif"};

int i, j;

for (i = 0; i < KEYWORDS\_COUNT; i++) {

j = 0;

while (str[j] != '\0' && keywords[i][j] != '\0' && str[j] == keywords[i][j]) {

j++;

}

if (str[j] == '\0' && keywords[i][j] == '\0') {

return 1;

}

}

return 0;

}

int is\_operator(char c) {

return c == '+' || c == '-' || c == '\*' || c == '/' || c == '=';

}

int is\_special\_character(char c) {

return c == ';' || c == ',' || c == '(' || c == ')';

}

int is\_digit(char c) {

return c >= '0' && c <= '9';

}

int is\_alpha(char c) {

return (c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z');

}

void analyze\_input(char input[]) {

char token[100];

int i = 0, j = 0;

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

if (is\_alpha(input[i])) {

j = 0;

while (is\_alpha(input[i]) || is\_digit(input[i])) {

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

}

token[j] = '\0';

if (is\_keyword(token)) {

printf("%s is a keyword\n", token);

} else {

printf("%s is an identifier\n", token);

}

} else if (is\_digit(input[i])) {

j = 0;

while (is\_digit(input[i])) {

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

}

token[j] = '\0';

printf("%s is a constant\n", token);

}

else if (is\_operator(input[i])) {

printf("%c is an operator\n", input[i++]);

}

else if (is\_special\_character(input[i])) {

printf("%c is a special character\n", input[i++]);

}

else if (input[i] == ' ') {

i++;

} else {

printf("%c is invalid\n", input[i++]);

}

}

}

int main() {

char input[100];

while (1) {

printf("Enter input: ");

int i = 0;

char c;

while ((c = getchar()) != '\n') {

input[i++] = c;

}

input[i] = '\0';

analyze\_input(input);

printf("Do you want to continue? (y/n): ");

char option;

scanf(" %c", &option);

while (getchar() != '\n');

if (option == 'n') {

break;

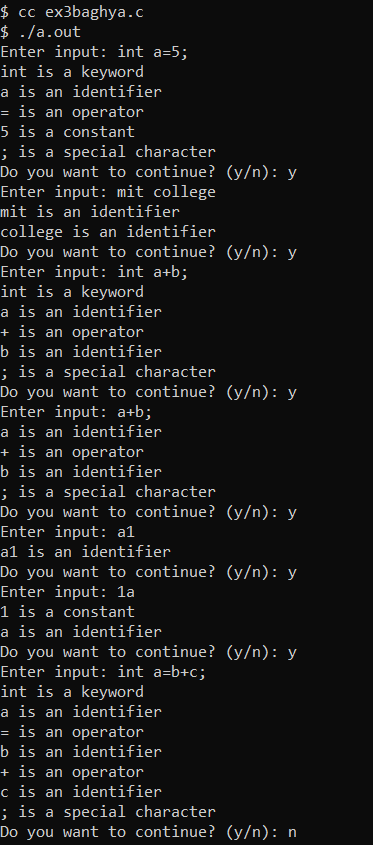
}

}

return 0;

}

**Output:**

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