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**BT19CS031**

## **QUESTION 2**

**Extend the program implemented above to check whether the instructions present in the program is valid or not using a MOT table. If not present, then print an error message specifying that the particular instruction is not a valid instruction.**

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

FILE *fpr=NULL,*fpw=NULL;

char addr(char ch)
{
    int n;
    n=0;      n=ch-'0';
    n+=8;      if(n==8)
    return '8';
    else if(n==9)
    return '9';
    else if(n==10)
    return 'A';
    else if(n==11)
    return 'B';
    else if(n==12)
    return 'C';
    else if(n==13)
    return 'D';
    else if(n==14)
    return 'E';
    else if(n==15)
    return 'F';
```

```

} int
main() {
    char label[10],mnemonic[10]
    ,operand[10],program_name[10],sym_label[30][10],sym_address[30][10],
    opcodes[1000][3],opcode[10],str[80],st[10],ch,c,chr[10],text[80][80];

    int
    address=0,line=0,length,x=0,first_address=0,last_address=0,pa=0,obj_code=0,i=
    0,j=0,k=0,pos1=0,
        pos2=0,flag1=0,flag2=0,p1=0,p2=0,l=0,z=0,n=0,count=0,l1=0,l2=0;

    char
    op_mnemonic[26][10]={ "LDAC", "STAC", "SUBJ", "MULT", "STRL", "DIVD", "ADDA", "STRCH"
    , "DT",
    "JMPEQ", "LOADCH", "DW", "SUBR", "FIXR", "FIX", "JMPLT", "COMP", "CLR", "LOADB", "J", "D
    R", "COMPR", "STREX", "LOADT", "LOADL", "LOADX"};

    char
    op_opcode[26][10]={ "10", "1C", "58", "30", "24", "34", "28", "44", "F0", "40", "60", "EC
    ", "4C", "C8", "3C", "39", "38", "C4", "78", "3C", "E8", "D0", "20", "84", "08", "04"};

    fpr=fopen("instab.txt", "r");

    fscanf(fpr, "%s %X\n", mnemonic, address);
    line++;    fclose(fpr);

    while(strcmp(mnemonic, "END")!=0)
    {
        for(i=0;i<26;i++){
            if(strcmp(mnemonic, op_mnemonic[i])==0){
break;
            }
        }
        if(i==25){
            printf("Error: Instruction not found !");
        }
    }
    printf("%s\n",mnemonic);
}
return 0; }

```

```
"C:\Users\Niraj\Desktop\c++\Question 1\MotCheck (3).exe"
W      Error: Instruction not found !
Process returned 0 (0x0)   execution time : 0.037 s
Press any key to continue.
```

```
Photos - WhatsApp Image 2021-04-29 at 00.06.17 (1).jpeg
See all photos + Add to
Edit & Create Share ...
COPY START 1000
FIRST STRL RETADR
CLOOP SUBJ RDRREC
-- LDAC LENGTH
-- COMP ZERO
-- JMPEQ ENDFIL
-- SUBJ WRREC
-- J CLOOP
ENDFIL LDAC EOF
-- STAC BUFFER
-- LDAC THREE
-- STAC LENGTH
-- SUBJ WRREC
-- LOADL RETADR
-- SUBR --
EOF BYTE C'EOF'
THREE WORD 3
ZERO WORD 0
RETADR RESERW 1
LENGTH RESERW 1
BUFFER RESERB 4096
RDRREC LOADX ZERO
-- LDAC ZERO
RLOOP DT INPUT
-- JMPEQ RLOOP
-- DR INPUT
-- COMP ZERO
-- JMPEQ EXIT
-- STRCH BUFFER,X
-- FIX MAXLEN
-- JMPLT RLOOP
EXIT STREX LENGTH
-- SUBR --
INPUT BYTE X'F1'
MAXLEN WORD 4096
WRREC LOADX ZERO
WLOOP DT OUTPUT
-- JMPEQ WLOOP
-- LOADCH BUFFER,X
-- DW OUTPUT
-- FIX LENGTH
-- JMPLT WLOOP
-- SUBR --
OUTPUT BYTE X'05'
-- END FIRST
```