

**.MODEL SMALL****.STACK 100H****.DATA**

```

MAIN_MENU DB ,0DH,0AH,"Calclater",0DH,0AH
            DB "Press 'A' For ADDITION",0DH,0AH
            DB "Press 'S' For SUBTRACTION",0DH,0AH
            DB "Press 'M' For MULTIPLICATION",0DH,0AH
            DB "Press 'D' For DIVISION",0DH,0AH
            DB "Press 'E' For EXIT",0DH,0AH
            DB "Press 'R' For RETURN to Main Menu",0DH,0AH
            DB "*****",0DH,0AH
            DB "*****",0DH,0AH
            DB "Enter Your CHOICE",0DH,0AH,'$'

NUM1 DB "Enter First Number",0DH,0AH,'$'

NUM2 DB ,0DH,0AH,"Enter Second
Number",0DH,0AH,'$'

ADD1 DB ,0DH,0AH,"FOR ADDITION",0DH,0AH,'$'
SUB1 DB ,0DH,0AH,"FOR SUBTRACTION",0DH,0AH,'$'
MUL1 DB ,0DH,0AH,"FOR MULTIPLICATION",0DH,0AH,'$'
DIV1 DB ,0DH,0AH,"FOR DIVISION",0DH,0AH,'$'
EX DB ,0DH,0AH,"GOOD BYE AND HAVE A NICE TIME
:)",0DH,0AH,'$'

ANS DB ,0DH,0AH,"ANSWER ",0DH,0AH,'$'

CONTINUE DB ,0DH,0AH,"DO YOU WANT TO
CONTINUE",0DH,0AH,'$'

OP1 DB ?
OP2 DB ?
Operand DB ?
CON DB ?

```

**.CODE****.STARTUP****START:**

```

MOV AH,09H
MOV DX, OFFSET MAIN_MENU
INT 21H
MOV AH,01H
INT 21H
MOV Operand,AL
MOV AL,Operand
CMP AL,'A'
JE ADD
CMP AL,'S'
JE SUB
CMP AL,'M'
JE MUL
CMP AL,'D'
JE DIV
CMP AL,'R'
JE START
CMP AL,'E'
JE EXIT

```

**ADD: ; PERFORMING ADDITION**

```

MOV AH,09H
MOV DX,OFFSET ADD1
INT 21H
;FIRST OPERAND
MOV AH,09H
MOV DX,OFFSET NUM1
INT 21H
MOV AH,01H

```

```
INT 21H
MOV OP1,AL
;SECOND OPERAND
MOV AH,09H
MOV DX,OFFSET NUM2
INT 21H
MOV AH,01H
INT 21H
MOV OP2,AL
MOV AH,09H
MOV DX, OFFSET ANS
INT 21H
MOV AL,OP1
MOV BL,OP2
ADD AL,BL
AAS
OR AX, 3030H
;PRINT RESULT
MOV AH,0EH
INT 10H
;FOR CONTINUE
MOV AH,09H
MOV DX,OFFSET CONTINUE
INT 21H
MOV AH,01H
INT 21H
MOV CON,AL
MOV AL,CON
CMP AL,'Y'
JE START
```

```
CMP AL,'N'
JE EXIT
SUB: ; PERFORMING SUBTRACTION
MOV AH,09H
MOV DX,OFFSET SUB1
INT 21H
;FIRST OPERAND
MOV AH,09H
MOV DX,OFFSET NUM1
INT 21H
MOV AH,01H
INT 21H
MOV OP1,AL
;SECOND OPERAND
MOV AH,09H
MOV DX,OFFSET NUM2
INT 21H
MOV AH,01H
INT 21H
MOV OP2,AL
MOV AH,09H
MOV DX, OFFSET ANS
INT 21H
MOV AL,OP1
MOV BL,OP2
SUB AL,BL
AAS
OR AX, 3030H
;PRINT RESULT
MOV AH,0EH
```

INT 10H

**;FOR CONTINUE**

MOV AH,09H

MOV DX,OFFSET CONTINUE

INT 21H

MOV AH,01H

INT 21H

MOV CON,AL

MOV AL,CON

CMP AL,'Y'

JE START

CMP AL,'N'

JE EXIT

**MUL: ; PERFORMING MULTIPLICATION**

MOV AH,09H

MOV DX,OFFSET MUL1

INT 21H

**;FIRST OPERAND**

MOV AH,09H

MOV DX,OFFSET NUM1

INT 21H

MOV AH,01H

INT 21H

SUB AL,30H

MOV OP1,AL

**;SECOND OPERAND**

MOV AH,09H

MOV DX,OFFSET NUM2

INT 21H

MOV AH,01H

INT 21H

SUB AL,30H

MOV OP2,AL

MOV AH,09H

MOV DX, OFFSET ANS

INT 21H

MOV AL,OP1

MOV BL,OP2

MUL BL

ADD AL,30H

**; PRINT RESULT**

MOV AH,0EH

INT 10H

**;FOR CONTINUE**

MOV AH,09H

MOV DX,OFFSET CONTINUE

INT 21H

MOV AH,01H

INT 21H

MOV CON,AL

MOV AL,CON

CMP AL,'Y'

JE START

CMP AL,'N'

JE EXIT

**DIV: ; PERFORMING DIVISION**

MOV AH,09H

MOV DX,OFFSET DIV1

INT 21H

**;FIRST OPERAND**

```
MOV AH,09H
MOV DX,OFFSET NUM1
INT 21H
MOV AH,01H
INT 21H
SUB AL,30H
MOV OP1,AL
;SECOND OPERAND
MOV AH,09H
MOV DX,OFFSET NUM2
INT 21H
MOV AH,01H
INT 21H
SUB AL,30H
MOV OP2,AL
MOV AH,09H
MOV DX, OFFSET ANS
INT 21H
MOV AX,0000H
MOV AL,OP1
MOV BL,OP2
DIV BL
ADD AL,30H
;PRINT RESULT
MOV AH,0EH
INT 10H
;FOR CONTINUE
MOV AH,09H
MOV DX,OFFSET CONTINUE
INT 21H
```

```
MOV AH,01H
INT 21H
MOV CON,AL
MOV AL,CON
CMP AL,'Y'
JE START
CMP AL,'N'
JE EXIT
EXIT: ; SAY GOOD BYE AND THEN EXIT
MOV AH,09H
MOV DX,OFFSET EX
INT 21H
.EXIT
END
```

# OUTPUT

## ADDITION

```

Calculator
Press 'A' For ADDITION
Press 'S' For SUBTRACTION
Press 'M' For MULTIPLICATION
Press 'D' For DIVISION
Press 'E' For EXIT
Press 'R' For RETURN to Main Menu
*****
*****
Enter Your CHOICE
A
FOR ADDITION
Enter First Number
3
Enter Second Number
2
ANSWER
5
DO YOU WANT TO CONTINUE
N
GOOD BYE AND HAVE A NICE TIME:>

```

## SUBTRACTION

```

Calculator
Press 'A' For ADDITION
Press 'S' For SUBTRACTION
Press 'M' For MULTIPLICATION
Press 'D' For DIVISION
Press 'E' For EXIT
Press 'R' For RETURN to Main Menu
*****
*****
Enter Your CHOICE
S
FOR SUBTRACTION
Enter First Number
6
Enter Second Number
5
ANSWER
1
DO YOU WANT TO CONTINUE
N
GOOD BYE AND HAVE A NICE TIME:>

```

## MULTIPLICATION

```

Calculator
Press 'A' For ADDITION
Press 'S' For SUBTRACTION
Press 'M' For MULTIPLICATION
Press 'D' For DIVISION
Press 'E' For EXIT
Press 'R' For RETURN to Main Menu
*****
*****
Enter Your CHOICE
M
FOR MULTIPLICATION
Enter First Number
2
Enter Second Number
2
ANSWER
4
DO YOU WANT TO CONTINUE
N
GOOD BYE AND HAVE A NICE TIME:>

```

## DIVISION

```

Calculator
Press 'A' For ADDITION
Press 'S' For SUBTRACTION
Press 'M' For MULTIPLICATION
Press 'D' For DIVISION
Press 'E' For EXIT
Press 'R' For RETURN to Main Menu
*****
*****
Enter Your CHOICE
D
FOR DIVISION
Enter First Number
6
Enter Second Number
3
ANSWER
2
DO YOU WANT TO CONTINUE
N
GOOD BYE AND HAVE A NICE TIME:>

```

