

Experiment - 1

IBM19C5090

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Q) Write a menu driven C program to design a simple calculator which solves 10 operations - 4 Arithmetic, 4 relational and any two of your choice. The program should loop till the user wishes to stop.

code:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    char flag;
    int num1, num2, result = 0;
    while (1)
    {
        printf("\n Enter First Value: ");
        scanf("%d", &num1);
        printf("\n Enter Operator\n + (addition),\n - (subtraction),\n * (multiplication),\n / (division),\n % (remainder),\n ^ (num1 to the power num2),\n < (less than?),\n > (greater than?),\n = (equal to?),\n != (not equal to?)\n\n");
        scanf("%d", &num2);
        switch (flag)
        {
            case '+':
                result = num1 + num2;
                printf("\n Sum is = %d", result);
                break;
```

case '-' :

result = num1 - num2;

printf ("In Difference is = %.d", result);

printf ("In\n Enter value Again for a New Input\n");

break;

case '*' :

result = num1 * num2;

printf ("In Product is = %.d", result);

printf ("In\n Enter value again for a New Input\n");

break;

case '/' :

result = num1 / num2;

printf ("In Quotient is = %.d", result);

printf ("In\n Enter value again for a New Input\n");

case '%' :

result = num1 % num2;

printf ("In Remainder is = %.d", result);

printf ("In\n Enter value again for a New Input\n");

break;

case '>' :

if (num1 > num2)

printf ("yes");

else

{ printf ("In\n yes");

printf ("In Enter value Again for a New Input\n");

}

break;

case '=' :

if (num1 == num2)

printf ("yes");

```

else
{
    printf ("\n\n no");
    printf ("\n Enter value Again for New Input\n");
}
break;
case '^':
    printf ("%d^%d = %d", num1, num2, pow (num1, num2));
    break;
case '!':
    if (num1 == num2)
        printf ("no");
    else
    {
        printf ("\n\n yes");
        printf ("\n Enter value Again for New Input\n");
    }
    break;
default:
    printf ("\n Enter value Valid operator !!!\n");
    printf ("\n\n Enter value Again for a New Input\n");
}
return 0;
}

```

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RAHIL

S. Mohammed Ibrahim Rahil

Q) Write a C program to accept 3 numbers from user. Find the greater two among the three and pass them as parameters to the userdefined functions given below.

- a) sumaver() which finds the sum and average of the 2 numbers. Print sum and return average.
- b) printeven() which prints all the even numbers between the given two numbers.

code:

```
#include <stdio.h>
#include <conio.h>
int main()
{
    int maxof3 (int a, int b, int c)
    {
        int largest = 0;
        if (a > b && a > c)
            largest = a;
        else if (b > a && b > c)
            largest = b;
        else
            largest = c;
        return largest;
    }
    void sumaver (int a, int b)
    {
        printf("The average is : %.2f\n", (a+b)/2);
        printf("The sum is : %.2f\n", (a+b));
    }
}
```

void printeven (int a, int b) IBM19CS090

{

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int i;

printf ("Even numbers %d to %d (inclusive):",
b, a);

for (i = b; i <= a; i++)

{

if (i % 2 == 0)

printf ("%d ", i);

}

}

int maxof2 (int a, int b)

{

int largest = 0;

if (a > b)

largest = a;

else if (b > a)

largest = b;

return largest;

}

int n1, n2, n3, x, y, fl;

printf ("Enter three numbers: \n");

scanf ("%d %d %d", &n1, &n2, &n3);

x = maxof2 (n1, n2);

if (x == n1)

y = maxof2 (n2, n3);

else if (x == n2)

y = maxof2 (n1, n3);

else

y = maxof2 (n1, n2);

printf ("The largest of two of given three are
%d and %d \n", x, y);

sum avg (x, y);

printeven (x, y);

return 0;

```

1 #include<stdio.h>
2 #include<conio.h>
3 int main()
4 {
5     int maxof3(int a,int b, int c)
6     {
7         int largest=0;
8         if(a>b && a>c)
9             largest=a;
10            else if(b>a && b>c)
11                largest=b;
12            else
13                largest=c;
14            return largest;
15        }
16    void sumaver(int a, int b)
17    {
18        printf("the average is : %d \n", ((a+b)/2));
19        printf("the sum is : %d \n", (a+b));
20    }
21    void printeven(int a, int b)
22    {
23        int i;
24        printf("Even numbers between %d to %d (inclusive): " ,b,a);
25        for (i = b; i <= a; i++)
26        {
27            if(i%2 == 0)
28                printf("%d ", i);
29        }
30    }
31    int maxof2(int a,int b)
32    {
33        int largest=0;
34        if(a>b)
35            largest=a;
36        else if(b>a)
37            largest=b;
38        return largest;
39    }
40    int n1,n2,n3,x,y,f1;
41    printf("Enter three numbers: \n");
42    scanf("%d%d%d",&n1,&n2,&n3);
43    x = maxof3(n1,n2,n3);
44    if (x==n1)
45        y = maxof2(n2,n3);
46    else if(x==n2)
47        y = maxof2(n1,n3);
48    else
49        y =maxof2(n1,n2);
50    printf("the largest two of the given three are %d and %d \n",x,y);
51    sumaver(x,y);
52    printeven(x,y);
53    return 0;
54 }

```



Enter three numbers:

13

12

11

the largest two of the given three are 13 and

the average is : 12

the sum is : 25

Even numbers between 12 to 13 (inclusive): 12

Process finished.

× Terminal



Enter three numbers:

3

5

9

the largest two of the given three are 9 and
the average is : 7

the sum is : 14

Even numbers between 5 to 9 (inclusive): 6 8

Process finished.


```

1 #include<stdio.h>
2 #include<conio.h>
3 int main()
4 {
5     char flag;
6     int num1, num2, result = 0;
7     while(1)
8     {
9         printf("\nEnter First Value:");
10        scanf("%d",&num1);
11        printf("\nEnter Operator\n+ (addition),\n - (subtraction),\n * (multiplication),\n / (division) ,\n % (remainder)");
12        scanf(" %c",&flag);
13        printf("\nEnter Second Value:");
14        scanf("%d",&num2);
15        switch(flag)
16        {
17            case '+':
18                result = num1 + num2;
19                printf("\nSum is = %d",result);
20                break;
21            case '-':
22                result = num1 - num2;
23                printf("\nDifference is = %d",result);
24                printf("\n\n Enter value Again for a New Input\n");
25                break;
26            case '*': result = num1 * num2;
27                printf("\nProduct is = %d",result);
28                printf("\n\n Enter value Again for a New Input\n");
29                break;
30            case '/':
31                result = num1 / num2;
32                printf("\nQuotient is = %d",result);
33                printf("\n\n Enter value Again for a New Input\n");
34                break;
35            case '%':
36                result = num1 % num2;
37                printf("\nReminder is = %d",result);
38                printf("\n\n Enter value Again for a New Input\n");
39                break;
40            case '>':
41                if(num1>>num2)
42                    printf("yes");
43                else
44                {
45                    printf("\n\nNo");
46                    printf("\n Enter value Again for a New Input\n");
47                } break;
48            case '<':
49                if(num1<<num2)
50                    printf("no");
51                else
52                {
53                    printf("\n\nyes");
54                    printf("\n Enter value Again for a New Input\n");
55                }
56                break;
57            case '=':
58                if(num1==num2)
59                    printf("yes");
60                else
61                {
62                    printf("\n\nno");
63                    printf("\n Enter value Again for a New Input\n");
64                }
65                break;
66            case '^':
67                printf("%lf",pow(num1,num2));
68                break;
69            case '!':
70                if(num1==num2)
71                    printf("no");
72                else
73                {
74                    printf("\n\nyes");
75                    printf("\n Enter value Again for a New Input\n");
76                }
77                break;
78            default:
79                printf("\nEnter value Valid Operator!!!\n");
80                printf("\n\n Enter value Again for a New Input\n");
81        }
82        getch();
83    }
84    return 0;
85 }

```



```
× Terminal

Enter First Value:50

Enter Operator
+ (addition),
- (subtraction),
* (multiplication),
/ (division) ,
% (remainder) ,
^ (num1(to the power)num2) ,
< (less than?) ,
> (greater than?),
= (equal to?),
! (not equal to?)

*

Enter Second Value:3

Product is = 150

Enter value Again for a New Input

Enter First Value:3

Enter Operator
+ (addition),
- (subtraction),
* (multiplication),
/ (division) ,
% (remainder) ,
^ (num1(to the power)num2) ,
< (less than?) ,
> (greater than?),
= (equal to?),
! (not equal to?)

^

Enter Second Value:4
81.000000
Enter First Value:g

Enter Operator
+ (addition),
- (subtraction),
* (multiplication),
/ (division) ,
% (remainder) ,
^ (num1(to the power)num2) ,
< (less than?) ,
> (greater than?),
= (equal to?),
! (not equal to?)

Enter Second Value:h

Enter value Valid Operator!!!
```



Enter First Value:5

Enter Operator

+ (addition),
- (subtraction),
* (multiplication),
/ (division) ,
% (remainder) ,
^ (num1(to the power)num2) ,
< (less than?) ,
> (greater than?),
= (equal to?),
! (not equal to?)

<

Enter Second Value:11

yes

Enter value Again for a New Input

Enter First Value:

no. Thank You!