Experiment - 1

IBM19CS090
S Mohammed Ibrahim Rafid

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 ("\n Difference is = %d", result);
printf ("\n\n Enter Value Again for a New Input\n");
break;
case '*':
result = number1 * num2;
printf = ("\n Product is = %d", result);
printf = ("\n\n Enter Value again for a New Input\n");
break;
case '/':
result = num1 / num2;
printf ("\n Quotient is = %d", result);
printf ("\n\n Enter Value again for a New Input\n");
case '%':
result = num1 % num2;
printf ("\n Remainder is = %d", result);
printf ("\n\n Enter Value again for a New Input\n");
break;
case '>';
if (num1 >> num2)
    printf ("yes");
else
{
    printf ("\n\n yes");
    printf ("\n 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 ("%.1f", 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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EXPERIMENT - 2

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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 user defined functions as 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 = a;
        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 : %d \n", (a+b)/2);
        printf("the sum is : %d \n", (a+b));
    }
```

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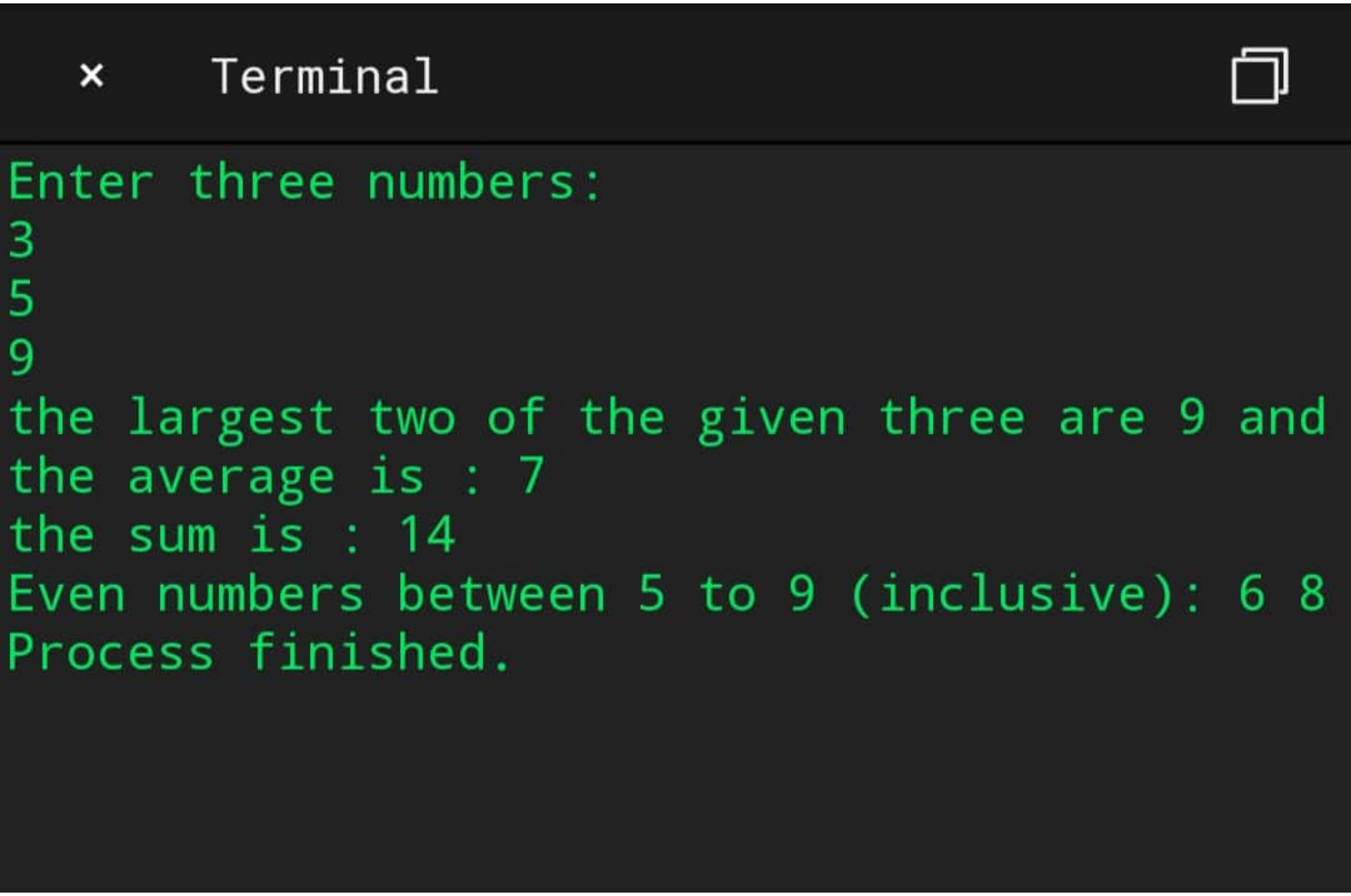
```
Void printeven (int a, int b)
{
    int i;
    printf("Even numbers %d to %d (inclusive):", b, a);
    for (i=b; i<=a; i++)
    {
        if (i%2==0)
            printf("%d", i);
    }
}
int maxof2 (int a, int b)
{
    int largest=0;
    if (a>b)
        largest=a;
    else if (b>a)
        largest=b;
    return largest;
}
int n1, n2, n3, x, y, f1;
printf("Enter three numbers: \n");
scanf("%d %d %d", &n1, &n2, &n3);
x = maxof3(n1, n2, n3);
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);
sumavg(x, y);
printeven(x, y);
return 0;
```

```c
#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 : %d \n", ((a+b)/2));
         printf("the sum is : %d \n",(a+b));
    }
    void printeven(int a, int b)
    {
        int i;
        printf("Even numbers between %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 = maxof3(n1,n2,n3);
    if (x==n1)
        y = maxof2(n2,n3);
    else if(x==n2)
        y = maxof2(n1,n3);
    else
        y =maxof2(n1,n2);
    printf("the largest two of the given three are %d and %d \n",x,y);
    sumaver(x,y);
    printeven(x,y);
    return 0;
}
```

Comments

```
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.
```



calciMenu.c

Saved

```c
#include<stdio.h>
#include<conio.h>
int main()
{
    char flag;
    int num1, num2, result = 0;
    while(1)
    {
        printf("\nEnter First Value:");
        scanf("%d",&num1);
        printf("\nEnter Operator\n+ (addition),\n - (subtraction),\n * (multiplication),\n / (division) ,\n % (re
        scanf(" %c",&flag);
        printf("\nEnter Second Value:");
        scanf("%d",&num2);
        switch(flag)
        {
            case '+':
            result = num1 + num2;
            printf("\nSum is = %d",result);
            break;
            case '-':
            result = num1 - num2;
            printf("\nDifference is = %d",result);
            printf("\n\n Enter value Again for a New Input\n");
            break;
            case '*': result = num1 * num2;
            printf("\nProduct is = %d",result);
            printf("\n\n Enter value Again for a New Input\n");
            break;
            case '/':
            result = num1 / num2;
            printf("\nQuotient is = %d",result);
            printf("\n\n Enter value Again for a New Input\n");
            break;
            case '%':
            result = num1 % num2;
            printf("\nReminder is = %d",result);
            printf("\n\n Enter value Again for a New Input\n");
            break;
            case '>':
            if(num1>>num2)
                printf("yes");
            else
            {
                printf("\n\nNo");
                printf("\n Enter value Again for a New Input\n");
            } break;
           case '<':
           if(num1>>num2)
                printf("no");
           else
           {
                printf("\n\nyes");
                printf("\n Enter value Again for a New Input\n");
           }
           break;
           case '=':
           if(num1==num2)
                printf("yes");
           else
           {
                printf("\n\nno");
                printf("\n Enter value Again for a New Input\n");
           }
           break;
           case '^':
           printf("%lf",pow(num1,num2));
           break;
           case '!':
           if(num1==num2)
                 printf("no");
           else
           {
                 printf("\n\nyes");
                 printf("\n Enter value Again for a New Input\n");
           }
           break;
           default:
           printf("\nEnter value Valid Operator!!!\n");
           printf("\n\n Enter value Again for a New Input\n");
      }
      getch();
   }
   return 0;
}
```

File info

```
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!!!
```

```
Terminal

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!
```