EED 1010 Algorithm&Programming

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Number: 2018502036

Date: 18.05.2020

Lab#13

Lab section 4

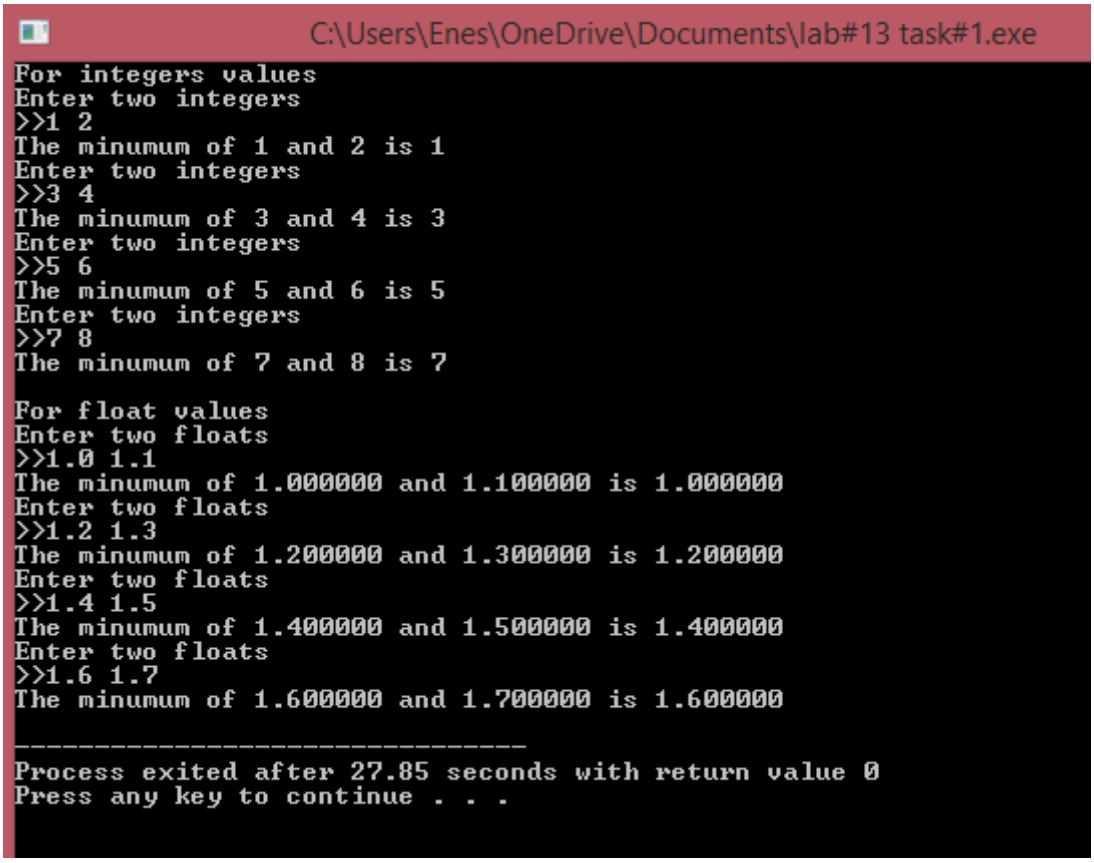
1 in theory

If the codes need to compile please enter the links to compile if you copy paste it will be seen in compiler just one line it is hard fix it please click the links.

Task 1 : ***(Smallest of two numbers)*** Write a program that defines and uses macro MINIMUM2 to determine the smallest of two numeric values. Input values from the keyboard

Click the link to see the code in github
https://github.com/EnesErten/chowtoprogram/blob/master/lab%2313%20task%231.cpp

```
#include<stdio.h>
#include<stdlib.h>
//include librariys

#define MINIMUM2(n,n1) ((n)<(n1) ? (n):(n1))
//define macro min if n<n2 is true return n else return n1

main()
{
   int num1,num2,i;
   float num3,num4;

   printf("For integers values\n");
   for(i=0;i<4;i++)
   {//loops 4 times
//takes 2 number 2 times
//send the numbers to MINUMUM2
      printf("Enter two integers\n>>");
      scanf("%d%d",&num1,&num2);

      printf("The minumum of %d and %d is %d\n",num1,num2,MINIMUM2(num1,num2));
   }

   printf("\nFor float values\n");
   for(i=0;i<4;i++)
   {//same logic but float values
      printf("Enter two floats\n>>");
      scanf("%f%f",&num3,&num4);

      printf("The minumum of %f and %f is %f\n",num3,num4,MINIMUM2(num3,num4));
   }
}
```



The output of the code

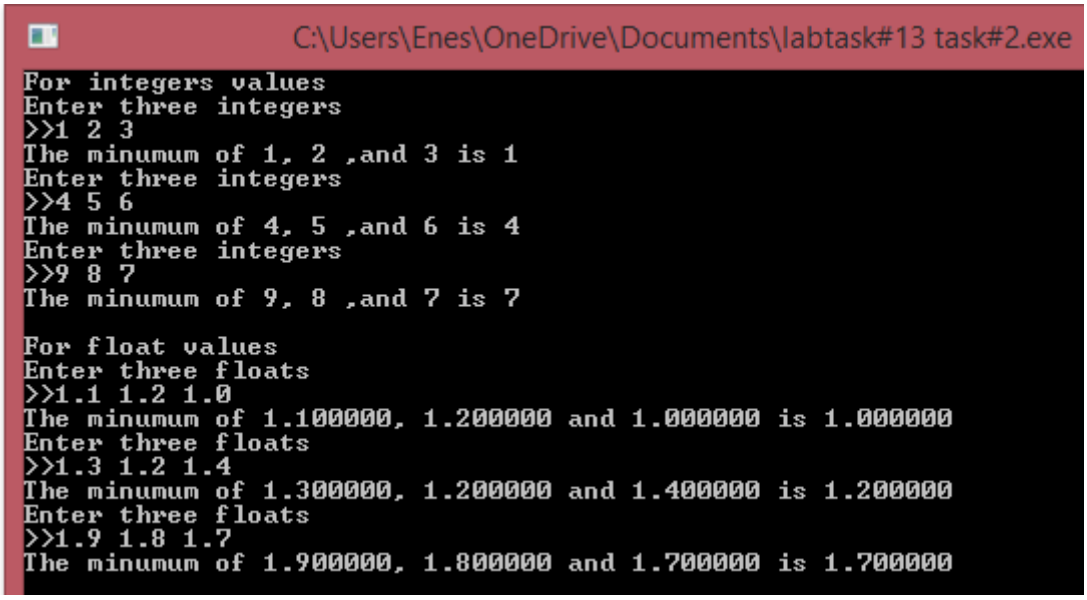
Task 2 ***:(Smallest of three numbers)*** Write a program that defines and uses macro MINIMUM3 to determine the smallest of three numeric values. Macro MINIMUM3 should use macro MINIMUM2 defined in Task.1 to determine the smallest number. Input the values from the keyboard.

Click the link to see code in github
https://github.com/EnesErten/chowtoprogram/blob/master/labtask%2313%20task%232.cpp

```
#include<stdio.h>
#include<stdlib.h>
//include libraries
//the explanation is in the task1
#define MINIMUM2(n,n1) ((n)<(n1) ? (n):(n1))
//define macro MINIMUM n2 n3 n4 use macro MINUMUM2 two compare which one is smallest
#define MINIMUM3(n2,n3,n4) (MINIMUM2(n2,MINIMUM2(n3,n4)))

main()
{//main is same things in the task1 takes 3 integers and 3 floats 3 times and uses MINUMUM3 to determine
   int num1,num2,num3,i;
   float num4,num5,num6;

   printf("For integers values\n");
   for(i=0;i<3;i++)
   {
      printf("Enter three integers\n>>");
```

```
        scanf("%d%d%d",&num1,&num2,&num3);

        printf("The minumum of %d, %d ,and %d is %d\n",num1,num2,num3,MINIMUM3(num1,num2,num3));
    }

    printf("\nFor float values\n");
    for(i=0;i<3;i++)
    {
        printf("Enter three floats\n>>");
        scanf("%f%f%f",&num4,&num5,&num6);

        printf("The minumum of %f, %f and %f is %f\n",num4,num5,num6,MINIMUM3(num4,num5,num6));
    }
}
```

The output

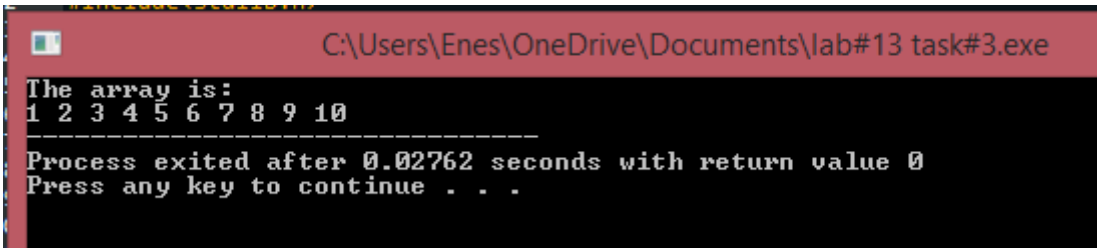


Task 3 : ***(Printing an array)*** Write a program that defines and uses macro PRINTARRAY to print an array of integers. The macro should receive the array and the number of elements in the array as arguments.

Click the link to see the code in github
https://github.com/EnesErten/chowtoprogram/blob/master/lab%2313%20task%233.cpp

```
#include<stdio.h>
#include<stdlib.h>
//include linraries
#define PRINTARRAY(arr,len,i) for(i=0;i<len;i++)\
    printf("%d ",arr[i])
//macro takethree argument first one is array seceond one is length of the array third one is used in for
//i assumpt the array will be integer
main()
{
//at main the integer array send to the macro and displays the array
    int arr[10]={1,2,3,4,5,6,7,8,9,10},i;
```

```
    printf("The array is:\n");
    PRINTARRAY(arr,10,i);
}
```



The output