

**NATIONAL UNIVERSITY OF COMPUTER & EMERGING
SCIENCES PESHAWAR CAMPUS**



Programming Fundamentals (Lab)

Assignment#1

Submitted BY

Name: Hassan Sardar

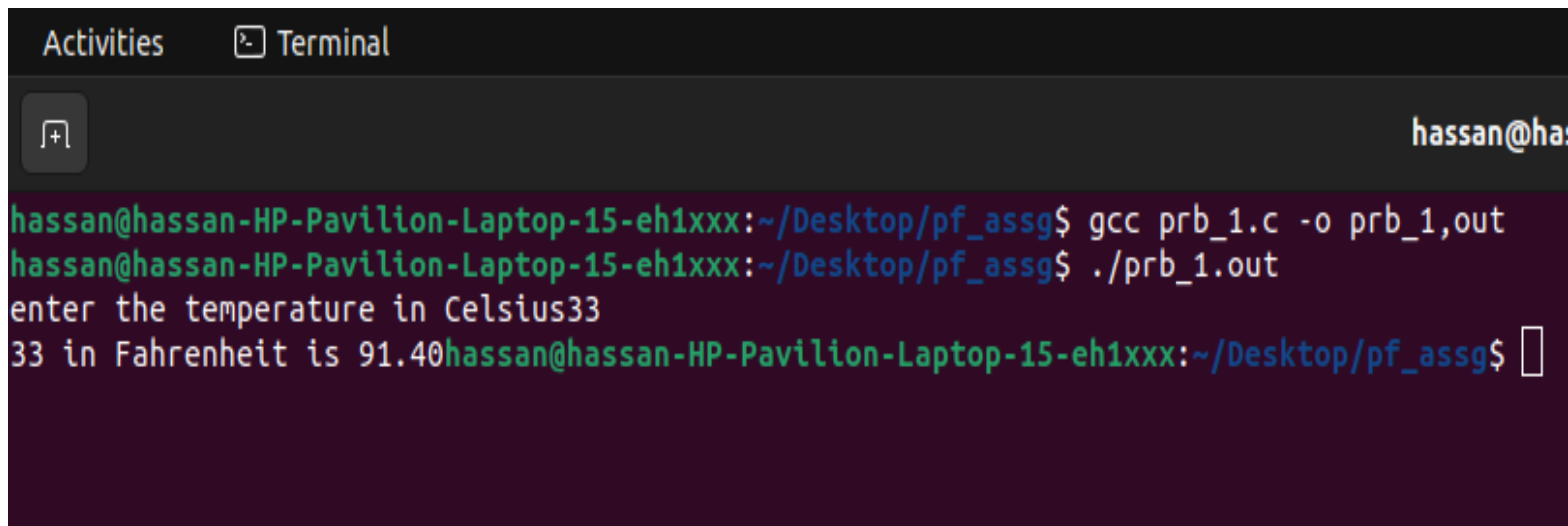
Roll No:22p-9108

Section: BSSE (1A)

Submitted to

Sir Mohammad Usman

Output



```
Activities Terminal hassan@ha
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ gcc prb_1.c -o prb_1.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_1.out
enter the temperature in Celsius33
33 in Fahrenheit is 91.40hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$
```

Problem #2

Write a program that check whether the year is leap or not?

Solution

```
//This program will check whether the given year is leap or not.
// This program is written by "Hassan Sardar" "22p-9108".

#include<stdio.h> // Header file
int Leap(int a); //Function named "Leap" declaration
int main() //main Function call
{ // main function's body start
int year; //variable "year" is define and declared with
integer type
```

```

printf("Enter the year you want to check=");           //
"printf"         function call
scanf("%d",&year);                                   // "scanf"         function
is called
Leap(year);                                           // Function
named      "Leap"      called
return 0;
}                                                     // main function's body closing
int Leap(int a)                                     // Function named      "Leap"      defining
{                                                     // body of function
named      "Leap"      starts
if (a%4==0&&a%100!=0)                               //conditional      "if"      statment
{                                                     // body of      "if"      starts
printf("%d is a leap year",a);                       //printf function will execute
only when condition of "if" is true
}                                                     // body of      "if"      closed
else if (a%400==0)                                   //conditional      "else
if"          statment
{                                                     // body of "else if" starts
printf("%d is a leap year",a);                       // printf function will
execute only when condition of "else if" is true
}                                                     // body of "else if" closed
else          // conditional "else" statment
{                                                     // body of "else" starts
printf("%d is not leap year",a);                     //printf function inside
the body of      "else" will execute only when condition
of      "if"      and      "else if" is false
}                                                     //body of      "else"      closed
}                                                     // body of function
named      "Leap"      closed

```

output



```
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ gcc prb_2.c -o prb_2.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_2.out
Enter the year you want to check=2100
2100 is not leap yearhassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$
```

Problem#3

Write a program that shows the cookies in boxes, box in the container, total cookies left, total boxes left?

Solution

```

//This program will show the Boxes and the number of containers to ship.
// This program is written by      "Hassan Sardar" "22p-9108"

#include<stdio.h>                                // Header file
int main()                                       // Main function call
{
    // main function's body start
    int a, b, c, d, e, f, g;                   // defining and declaring the variables
    of integer type.
    printf("Enter the total no. of cookies = "); // "printf"    function call
    scanf("%d",&a);                             // "scanf"    function call
    printf("Enter the no. of cookies in the box = "); // "printf"    function
    call
    scanf("%d",&b);                             // "scanf"    function call
    printf("Enter the no. of cookie boxes in the container = "); //
    "printf"    function call
    scanf("%d",&c);                             // "scanf"    function call
    d=a/b;                                     // assigning the value to variable "d"
    e=a%b;                                     // assigning the value to variable "e"
    f=d/c;                                     // assigning the value to variable "f"
    g=d%c;                                     // assigning the value to variable "g"
    printf("No. of Boxes=%d\n",d);             // "printf"    function call
    printf("No. of cookies leftover=%d\n",e);   // "printf"    function call
    printf("No. of containers=%d\n",f);         // "printf"    function call
    printf("No. of boxes leftover=%d\n",g);     // "printf"    function call
    return 0;
}                                               // main function's body closed

```

Output



```
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ gcc prb_3.c -o prb_3.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_3.out
Enter the total no. of cookies = 21
Enter the no. of cookies in the box = 3
Enter the no. of cookie boxes in the container = 4
No. of Boxes=7
No. of cookies leftover=0
No. of containers=1
No. of boxes leftover=3
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$
```

Problem#4

Write a program that show the descriptor of the magnitude of the earthquake?

Solution

```

//This program will show the descriptor of the magnitude of earthquake.
// This program is written by      "Hassan Sardar"      "22p-9108".

#include<stdio.h>          // Header file
int main()                //main Function call
{
    // main function's body start
    float mag;             // defining and declaring the variables of float
                             type.
    printf("enter the magnitude of the earthquake = ");    //
    // "printf" function call
    scanf("%f",&mag);    // "scanf" function
    // is called
    if (mag<2.0)            //conditional "if" statment
    {
        // body of "if" starts
        printf("magnitude of\t%0.2f\tis considered as to be
a\tMICRO\tearthquake",mag);    // "printf" function call
    }
    // body of "if" closed
    else if(2.0<=mag&&mag<3.0)    //conditional "else
if" statment
    {
        // body of "else if" starts
        printf("magnitude of\t%0.2f\tis considered as to be a\tVERY
MINOR\tearthquake",mag);    // "printf" function call
    }
    // body of "else if" closed
    else if(3.0<=mag&&mag<4.0)    //conditional "else
if" statment
    {
        // body of "else if" starts
        printf("magnitude of\t%0.2f\tis considered as to be
a\tMINOR\tearthquake",mag);    // "printf" function call
    }
    // body of "else if" closed
    else if(4.0<=mag&&mag<5.0)    //conditional "else
if" statment
    {
        // body of "else if" starts
        printf("magnitude of\t%0.2f\tis considered as to be
a\tLIGHT\tearthquake",mag);    // "printf" function call
    }
    // body of "else if" closed
    else if(5.0<=mag&&mag<6.0)    //conditional "else
if" statment
    {
        // body of "else if" starts
        printf("magnitude of\t%0.2f\tis considered as to be
a\tMODERATE\tearthquake",mag);    // "printf" function call
    }
    // body of "else if" closed
    else if(6.0<=mag&&mag<7.0)    //conditional "else
if" statment
    {
        // body of "else if" starts

```



```

printf("magnitude of\t%0.2f\tis considered as to be
a\tSTRONG\tearthquake",mag);    // "printf"   function call
}                                // body of "else if" closed
else if(7.0<=mag&&mag<8.0)        //conditional   "else
if"          statment
{
                                // body of "else if" starts
printf("magnitude of\t%0.2f\tis considered as to be
a\tMAJOR\tearthquake",mag);    // "printf"   function call
}                                // body of "else if" closed
else if(8.0<=mag&&mag<10.0)        //conditional   "else
if"          statment
{
                                // body of "else if" starts
printf("magnitude of\t%0.2f\tis considered as to be
a\tGREAT\tearthquake",mag);    // "printf"   function call
}                                // body of "else if" closed
else if(mag>=10.0)                //conditional   "else
if"          statment
{
                                // body of "else if" starts
printf("magnitude of\t%0.2f\tis considered as to be
a\tMETEORIC\tearthquake",mag); // "printf"   function call
}                                // body of "else if" closed
return 0;
}                                //main function's body closed

```

output

Activities Terminal



hassan@ha

```

hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ gcc prb_4.c -o prb_4.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_4.out
enter the magnitude of the earthquake = 9.9
magnitude of    9.90    is considered as to be a          GREAT    earthquakehassan@hassan-HP

```

Problem#5

Write a program that show the greatest odd number?

Solution

```
//This program will show the greatest odd number.
// This program is written by      "Hassan Sardar"      "22p-9108".

#include<stdio.h>          // Header file
int main()                // main function call
{                          //body of main starts
int a, b, c;              // defining and declaring the variables of integer
                           type.
printf("Enter the first number");    // "printf"   function call
scanf("%d",&a);                    // "scanf"    function is
called
printf("Enter the second number");   // "printf"   function call
scanf("%d",&b);                    // "scanf"    function is
called
printf("Enter the third number");    // "printf"   function call
scanf("%d",&c);                    // "scanf"    function is
called
if(a%2==1&&b%2==1&&c%2==1)          //conditional  "if"      statmen
t
{
    // body of    "if"    starts
    if(a>b&&a>c)                  //conditional  "if"      statment
    {
        // body of    "if"    starts
        printf("%d is greatest odd number",a);    // "printf"   function call
    }
        // body of    "if"    closed
    else if(b>c&&b>a)              //conditional  "else
if"
    {
        // body of "else if" starts
        printf("%d is greatest odd number",b);    // "printf"   function call
    }
        // body of "else if" closed
    else                          // conditional "else" statment
    {
        // body of "else" starts
        printf("%d is greatest odd number",c);    // "printf"   function call
    }
        //body of    "else"    closed
}
    // body of    "if"    closed
else if (a%2==1&&b%2==1&&c%2==0)    //conditional  "else
if"
    {
        // body of "else if" starts
        if(a>b)                  //conditional  "if"      statment
```

```

        {
            // body of "if" starts
            printf("%d is greatest odd number",a); // "printf" function call
        } // body of "if" closed
    else // conditional "else" statment
    {
        // body of "else" starts
        printf("%d is greatest odd number",b); // "printf" function call
    } //body of "else" closed
} // body of "else if" closed
else if (a%2==1&&b%2==0&&c%2==1) //conditional "else
if" statment
{
    // body of "else if" starts
    if(a>c) //conditional "if" statment
    {
        // body of "if" starts
        printf("%d is greatest odd number",a); // "printf" function call
    } // body of "if" closed
    else // conditional "else" statment
    {
        // body of "else" starts
        printf("%d is greatest odd number",c); // "printf" function call
    } //body of "else" closed
} // body of "else if" closed
else if (a%2==0&&b%2==1&&c%2==1) //conditional "else
if" statment
{
    // body of "else if" starts
    if(b>c) //conditional "if" statment
    {
        // body of "if" starts
        printf("%d is greatest odd number",b); // "printf" function call
    }
    else // conditional "else"
statment // body of "if" closed
    {
        // body of "else" starts
        printf("%d is greatest odd number",c); // "printf" function call
    } //body of "else" closed
} // body of "else if" closed
else if (a%2==1&&b%2==0&&c%2==0) //conditional "else
if" statment
{
    // body of "else if" starts
    printf ("%d is the greatest odd number",a); // "printf" function call
} // body of "else if" closed
else if (a%2==0&&b%2==1&&c%2==0) //conditional "else
if" statment
{
    // body of "else if" starts
    printf ("%d is the greatest odd number",b); // "printf" function call
} // body of "else if" closed
else if (a%2==0&&b%2==0&&c%2==1) //conditional "else
if" statment
{
    // body of "else if" starts
    printf ("%d is the greatest odd number",c); // "printf" function call
} // body of "else if" closed

```

```

else                // conditional "else" statment
{
    // body of "else" starts
printf("None of them is odd");    // "printf" function call
}                                //body of "else" closed
return 0;
}                                //body of main closed

```

output

Activities Terminal hassan@hassan-HP-Pavilio

```

hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ gcc prb_5.c -o prb_5.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_5.out
Enter the first number1
Enter th second number3
Enter th third number5
5 is greatest odd numberhassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_5.out
Enter the first number2
Enter th second number4
Enter th third number6
None of them is oddhassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_5.out
Enter the first number1
Enter th second number2
Enter th third number3
3 is greatest odd numberhassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_5.out
Enter the first number5
Enter th second number5
Enter th third number6
5 is greatest odd numberhassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_5.out
Enter the first number8
Enter th second number6
Enter th third number4
None of them is oddhassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ 

```

Problem#6

write a program that show the whether given sides are of equilateral triangle, scalene or isosceles?

Solution

```
//This program will show whether the triangle is equilateral ,isoceses or
scalene.
// THIS PROGRAM IS WRITTEN BY          "HASSAN SARDAR"          "22P-9108".

#include<stdio.h>          // Header file
int chk_triangle();        //function declaration
int main()                 // main function call
{                           // body of main starts
chk_triangle();            // function call
return 0;
}                           // body of main closed
int chk_triangle()         // function defining
{                           //body of defined function starts
float a, b, c;              // defining and declaring the variables of float
type.
printf("Enter the first side of the triangle=");    // "printf"   function
call
scanf("%f",&a);                                // "scanf"   function is
called
printf("Enter the second side of the triangle=");    // "printf"   function
call
scanf("%f",&b);                                // "scanf"   function is
called
printf("Enter the third side of the triangle=");    // "printf"   function
call
scanf("%f",&c);                                // "scanf"   function is
called
if(a==b&&a==c)                                //conditional   "if"   statment
{                                                // body of   "if"   starts
printf("This is the Equilateral triangle");    // "printf"   function call
}                                                // body of   "if"   closed
else if(a==b&&a!=c)                            //conditional   "else
if"   statment
{                                                // body of "else if" starts
printf("This is the isosceles triangle");    // "printf"   function call
```

```

}                                // body of "else if" closed
else if(a==c&&c!=b)              //conditional      "else
if"          statment
{                                // body of "else if" starts
printf("This is the isosceles triangle");    // "printf"   function call
}                                // body of "else if" closed
else if(b==c&&b!=a)              //conditional      "else
if"          statment
{                                // body of "else if" starts
printf("This is the isosceles triangle");    // "printf"   function call
}                                // body of "else if" closed
else                            // conditional "else" statment
{
printf("This is the scalene triangle");      // "printf"   function call
}                                //body of      "else"   closed
}                                // body of Defined function closed

```

output

Activities Terminal Oct 17

hassan@hassan-HP-Pavilion-Lapt

```

hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ gcc prb_6.c -o prb_6.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_6.out
Enter the first side of the triangle=2
Enter the second side of the triangle=2
Enter the third side of the triangle=2
This is the Equilateral trianglehassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_6.out
Enter the first side of the triangle=4
Enter the second side of the triangle=4
Enter the third side of the triangle=5
This is the isoceles trianglehassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_6.out
Enter the first side of the triangle=1
Enter the second side of the triangle=2
Enter the third side of the triangle=3
This is the scalene trianglehassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ 

```

Problem#7

write a program that show the cost of faxing international page?



Solution

```
//This program will show the total cost to send international fax.
// This program is written by          "Hassan Sardar" "22p-9108"

#include<stdio.h>                                // Header file
float fax_amount(int no_of_pages);              // FUNCTION DECLARATION
int main()                                       // main function call
{
    //body of main starts
    int a;                                     // defining and declaring the variable of integer type.
    float b;                                  // defining and declaring the variable of float type.
    printf("Enter the no. pages you want to fax"); // "printf" function call
    scanf("%d",&a);                          // "scanf" function is called
    b=fax_amount(a);                          //assigning the value to "b"
    printf("Total amount of sending international fax is = %0.2f",b); // "printf" function call
    return 0;
}                                                // body of main closed

float fax_amount(int no_of_pages)              //function named "fax_amount" is defining
{
    // body of defined function starts
    float b, c, d;                            // defining and declaring the variables of float type.
    if (no_of_pages>10)                       //conditional if statement
    {
        //body of if starts
        b=no_of_pages-10;                    // assigning the value to variable "b"
        b=b*0.10;                            // assigning the value to variable "b"
        c=10*0.20;                          // assigning the value to variable "c"
        d=b+c+3;                            // assigning the value to variable "d"
        return d;                            // returning value of "d" to main function
    }
    //body of if closed
    else                                     //conditional else statement
    {
        // body of else starts
        b=no_of_pages*0.20;                 // assigning the value to variable "b"
        c=b+3;                             // assigning the value to variable "c"
        return c;                           // returning value of "c" to main function
    }
    // body of else closed
} // body of defined function closed
```

output

```
Activities  Terminal  Oct 17 22:47  
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx: ~/Desktop/pf_assg$ gcc prb_7.c -o prb_7.out
hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_7.out
Enter the no. pages you want to fax 9
Total amount of sending international fax is = 4.80hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ ./prb_7.out
Enter the no. pages you want to fax 30
Total amount of sending international fax is = 7.00hassan@hassan-HP-Pavilion-Laptop-15-eh1xxx:~/Desktop/pf_assg$ 
```