



FUNCTIONS

Basic programs for practice

By DJVprogrammers



FUNCTIONS IN CPP

Write a program that calculates 6^5 . Declare your own function to do this.

Program Code:

```
#include<iostream>
```

```
using namespace std;
```

```
int ppp(int x)
```

```
{
```

```
    return x*x*x*x*x;
```

```
}
```

```
int main()
```

```
{
```

```
    int x;
```

```
    cout<<"enter a number"<<endl;
```

```
    cin>>x;
```

```
    cout<<x<<"^5 = "<<ppp(x);
```

```
}
```

OUTPUT:

```
enter a number
6
6^5 = 7776
```

Write a program that asks a name say hello. Use your own function, that receives a string of characters (name) and prints on screen the hello message. (Doesn't returns anything- void type)

Program Code:

```
#include<iostream>
```

```
using namespace std;
```

```
void fun(char x[],int i)
```

```
{
```

```
    cout<<x[i];
```

```
}
```

```
int main()
```

```
{
```

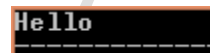
```
    char x[5]={'H','e','l','l','o'};
```

```
    for(int i=0;i<=4;i++)
```

```
        fun(x,i);
```

```
}
```

OUTPUT:

A screenshot of a terminal window with a black background. The word "Hello" is printed in a light blue or cyan monospaced font. The text is positioned on the first line of the terminal output.

Write a program that ask for two numbers, compare them and show the maximum. Declare a function called max_two that compares the numbers and returns the maximum.

Program Code:

```
#include<iostream>

using namespace std;

int max(int x,int y)
{
    if(x>=y)
        return x;
    else if(y>x)
        return y;
}

int main()
{
    int x,y,z;

    cout<<"enter two numbers"<<endl;

    cin>>x>>y;

    z=max(x,y);

    cout<<"maximum number is "<<z<<endl;;

    // another way to call this function

    // cout<<"maximum number is "<<max(x,y);

}
```

```
enter two numbers
54
45
maximum number is 54
```

Write a program that ask for three numbers, compare them and show the maximun. Declare a function called max_three that compares the numbers and returns the maximum.

Program Code:

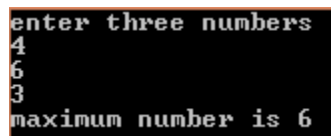
```
#include<iostream>

using namespace std;

int max(int x,int y,int z)
{
    if(x>y && x>z)
        return x;
    else if(y>x && y>z)
        return y;
    else if(z>x && z>y)
        return z;
}

int main()
{
    int x,y,z;

    cout<<"enter three numbers"<<endl;
    cin>>x>>y>>z;
    cout<<"maximum number is "<<max(x,y,z);
}
```

A screenshot of a terminal window showing the output of the C++ program. The prompt 'enter three numbers' is followed by three lines of input: '4', '6', and '3'. The final output line is 'maximum number is 6'.

Write a program that ask for two numbers, compare them and show the minimum. Declare a function called min_two that compares the numbers and returns the minimum.

Program Code:

```
#include<iostream>

using namespace std;

int min(int x,int y)

{

    if(x<y)

        return x;

    else if(y<x)

        return y;

}

int main()

{

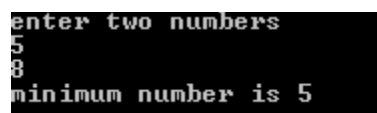
    int x,y;

    cout<<"enter two numbers"<<endl;

    cin>>x>>y;

    cout<<"minimum number is "<<min(x,y);

}
```

A screenshot of a terminal window showing the output of the C++ program. The text displayed is: "enter two numbers", followed by the user input "5", then "8", and finally "minimum number is 5".

```
enter two numbers
5
8
minimum number is 5
```

Write a program that asks the user for two integer number and write a function to find greatest common divisor.

Program Code:

```
#include<iostream>
```

```
using namespace std;
```

```
int divisor(int x,int y,int j)
```

```
{
```

```
    int d,i;
```

```
    for(i=1;i<=j;i++)
```

```
    {
```

```
        if(x%i==0 && y%i==0)
```

```
        d=i;
```

```
    }
```

```
    return d;
```

```
}
```

```
int main()
```

```
{
```

```
    int x,y;
```

```
    cout<<"enter two numbers"<<endl;
```

```
    cin>>x>>y;
```

```
    if(x<y)
```

```
        cout<<"greatest common divisor of "<<x<<" and "<<y<<" is "<<divisor(x,y,x);
```

```
else if(y<x)

cout<<"greatest common divisor of "<<x<<" and "<<y<<" is "<<divisor(x,y,y);

}
```

Output:

```
enter two numbers
5
4
greatest common divisor of 5 and 4 is 1
_____
```


Write a program that asks the user for two integer number and write a function to find least common multiple.

Program code:

```
#include<iostream>
```

```
using namespace std;
```

```
int multiple(int x,int y,int j)
```

```
{
```

```
    int d=1,i;
```

```
    for(i=2;i<=j;i++)
```

```
    {
```

```
        if(x%i==0 && y%i==0)
```

```
        {
```

```
            d=i;
```

```
            break;
```

```
        }
```

```
    }
```

```
    return d;
```

```
}
```

```
int main()
```

```
{
```

```
    int x,y;
```

```
    cout<<"enter two numbers"<<endl;
```

```
cin>>x>>y;

if(x<y)

cout<<"lowest common multiple of "<<x<<" and "<<y<<" is "<<multiple(x,y,x);

else if(y<x)

cout<<"lowest common multiple of "<<x<<" and "<<y<<" is "<<multiple(x,y,y);

}
```

Output:

```
enter two numbers
54
45
lowest common multiple of 54 and 45 is 3
-----
54 45 90 135 180 225 270 315 360 405 450 495 540 585 630 675 720 765 810 855 900 945 990 1035 1080 1125 1170 1215 1260 1305 1350 1395 1440 1485 1530 1575 1620 1665 1710 1755 1800 1845 1890 1935 1980 2025 2070 2115 2160 2205 2250 2295 2340 2385 2430 2475 2520 2565 2610 2655 2700 2745 2790 2835 2880 2925 2970 3015 3060 3105 3150 3195 3240 3285 3330 3375 3420 3465 3510 3555 3600 3645 3690 3735 3780 3825 3870 3915 3960 4005 4050 4095 4140 4185 4230 4275 4320 4365 4410 4455 4500 4545 4590 4635 4680 4725 4770 4815 4860 4905 4950 4995 5040 5085 5130 5175 5220 5265 5310 5355 5400 5445 5490 5535 5580 5625 5670 5715 5760 5805 5850 5895 5940 5985 6030 6075 6120 6165 6210 6255 6300 6345 6390 6435 6480 6525 6570 6615 6660 6705 6750 6795 6840 6885 6930 6975 7020 7065 7110 7155 7200 7245 7290 7335 7380 7425 7470 7515 7560 7605 7650 7695 7740 7785 7830 7875 7920 7965 8010 8055 8100 8145 8190 8235 8280 8325 8370 8415 8460 8505 8550 8595 8640 8685 8730 8775 8820 8865 8910 8955 9000 9045 9090 9135 9180 9225 9270 9315 9360 9405 9450 9495 9540 9585 9630 9675 9720 9765 9810 9855 9900 9945 10000
```

Write a program that asks the user for an integer number and write a function print Fibonacci numbers till entered number.

Program code:

```
#include<iostream>

using namespace std;

void fibb(int x)
{
    int i, a1=1,a2=1,a3;
    cout<<a1<<" "<<a2;
    for(i=1;x>=a1+a2;i++)
    {
        a3=a1+a2;
        cout<<" "<<a3;
        a1=a2;
        a2=a3;
    }
}

int main()
{
    int x;
    cout<<" enter a number upto which you want to print fibonacci series:\t";
    cin>>x;
    fibb(x);
}
```

```
enter a number upto which you want to print fibonacci series: 54
1,1,2,3,5,8,13,21,34
-----
```

Write a program that asks the user for an integer number and write a function to find whether it's even or odd.

Program Code:

```
#include<iostream>

using namespace std;

void evenodd(int x)

{

    if(x%2==0)

        cout<<"Even "<<endl;

    else

        cout<<"Odd"<<endl;

}

int main()

{

    int x;

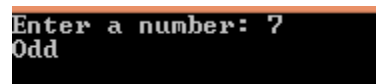
    cout<<"Enter a number:\t";

    cin>>x;

    evenodd(x);

}
```

Output:



```
Enter a number: 7
Odd
```

Write a program that asks the user for an integer number and write a function find the sum of all natural numbers upto that number.

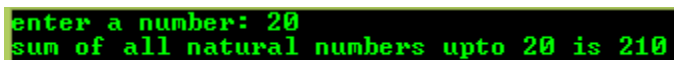
Program Code:

```
#include<iostream>

using namespace std;

int sum(int x)
{
    int sm=0,i;
    for(i=1;i<=x;i++)
        sm=sm+i;
    return sm;
}

int main()
{
    int x,sm=0;
    cout<<"enter a number:\t";
    cin>>x;
    sm=sum(x);
    cout<<"sum of all natural numbers upto "<<x<<" is "<<sm;
}
```

A screenshot of a terminal window showing the output of the program. The first line is "enter a number: 20" and the second line is "sum of all natural numbers upto 20 is 210". The text is green on a black background.

```
enter a number: 20
sum of all natural numbers upto 20 is 210
```

/*write a C/Cpp program to check either the number is prime or not using a function*/

Program Code

```
#include<iostream>
```

```
using namespace std;
```

```
void prime(int x)
```

```
{
```

```
    int i;
```

```
    if(x<=1)
```

```
    {
```

```
        cout<<"not prime"<<endl;
```

```
        return ;
```

```
    }
```

```
    for(i=2;i<=x/2;i++)
```

```
    {
```

```
        if(x%i==0)
```

```
{
```

```
        cout<<"not prime"<<endl;
```

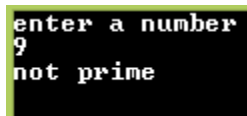
```
        return ;
```

```
}
```

```
}
```

```
    cout<<"prime"<<endl;
```

```
}  
  
int main()  
{  
  
    int x;  
  
    cout<<"enter a number"<<endl;  
  
    cin>>x;  
  
    prime(x);  
  
}
```

A screenshot of a terminal window showing the output of the program. The text displayed is: "enter a number", followed by a prompt character ">", then the user input "9", and finally the output "not prime".

```
enter a number  
>  
9  
not prime
```

Write a program that asks the user for two integer number and write a function to Swap the numbers.

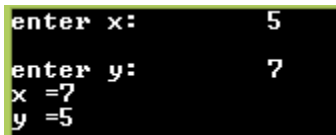
Program code

```
#include<iostream>

using namespace std;

void swap(int x,int y)
{
    int temp;
    temp=x;
    x=y;
    y=temp;
    cout<<"x ="<<x<<endl;
    cout<<"y ="<<y;
}

int main()
{
    int x,y;
    cout<<"enter x:\t";
    cin>>x;
    cout<<"\nenter y:\t";
    cin>>y;
    swap(x,y);
}
```

A screenshot of a terminal window showing the output of the C++ program. The first prompt is 'enter x:' followed by the user input '5'. The second prompt is 'enter y:' followed by the user input '7'. Below these, the program outputs 'x =7' and 'y =5' on separate lines.

```
enter x:      5
enter y:      7
x =7
y =5
```


Write a program that asks the user for two integer number and write a function to Swap the numbers using only 2 variable.

Program codes

```
#include<iostream>
```

```
using namespace std;
```

```
void swap(int&x,int&y)
```

```
{
```

```
    cout<<"x ="<<x<<endl;
```

```
    cout<<"y ="<<y;
```

```
}
```

```
int main()
```

```
{
```

```
    int x,y;
```

```
    cout<<"enter x:\t";
```

```
    cin>>x;
```

```
    cout<<"\nenter y:\t";
```

```
    cin>>y;
```

```
    swap(y,x);
```

```
}
```

```
enter x:      6
enter y:      8
x =8
y =6
```

Write a program that asks the user for two a char and write a function to get the ASCII code of that char.

Program Code

```
#include<iostream>

using namespace std;

void fun(char ch)
{
    int ascii;

    ascii=ch;

    cout<<"ASCII code of "<<ch<<" is "<<ascii;
}

int main()
{
    char ch;

    cout<<"enter a character"<<endl;

    cin>>ch;

    fun(ch);
}
```

```
enter a character
6
ASCII code of 6 is 54
```

Write a program that asks the user for an integer number and write a function to print the numbers that contain the entered number as multiple.

Program Codes

```
#include<iostream>
```

```
using namespace std;
```

```
void fun(int x)
```

```
{
```

```
    int i;
```

```
    cout<<x<<" is multiple of ";
```

```
    for(i=1;i<=x/2;i++)
```

```
    {
```

```
        if(x%i==0)
```

```
        cout<<i<<" ";
```

```
    }
```

```
}
```

```
int main()
```

```
{
```

```
    int x;
```

```
    cout<<"enter a number"<<endl;
```

```
    cin>>x;
```

```
    fun(x);
```

```
}
```

```
enter a number  
25  
25 is multiple of 1,5,
```

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