

Practice Questions based on functions

<p>1</p> <pre> int a=3; void demo(int x, int y, int &z) { a+=x; y*=a; z=a+y; cout<<x<<', '<<y<<', '<<z<<endl; } void main() { int a=2, b=5; demo(::a, a, b); cout<<::a<<', '<<a<<', '<<b<<endl; } Output 3,12,18 6,2,18 </pre>	<p>2</p> <pre> int g=2; void myfunction(int m, int &n, int &p) { g*=m+n; p=g+n; n+=m+n+p; cout<<m<<', '<<n<<', '<<p<<endl; } void main() { int g=3, l=2; myfunction(::g, g, l); cout<<::g<<', '<<g<<', '<<l<<endl; myfunction(g, ::g, l); } Output 2,21,13 10,21,13 21,1261,620 </pre>
<p>3</p> <pre> int x=2; void function(int &a, int b) { x+=a+b; a+=x+b; b+=a+x; if (b!=206) cout<<x<<', '<<a<<', '<<b<<endl; } void main() { int x=3; function(x, 5); function(::x, x); function(x, ::x);} output 10,18,33 206,318,618 </pre>	<p>4</p> <pre> void fn(int &x, int y, int &z) { x+=y+z; y+=z+x; z+=x+y; cout<<x<<', '<<y<<', '<<z<<endl; } void main() { int m=4, n=5,p=m; fn(p, m, n); fn(m, n, p); } Output 13,22,40 57,110,180 </pre>
<p>5</p> <pre> int m=4; void foo(int &a, int b, int &c) { m+=a+b+c; a+=b+c; b+=c+a+m; c+=a+b; m+=b; cout<<a<<', '<<b<<', '<<c<<endl; } void main() { int m=3; foo(m, ::m, ::m); foo(::m, m, m);} output 22,56,149 1202,816,1224 </pre>	<p>6</p> <pre> int m=1; void func(int x, int &y, int &z) { m+=x+y+z; y+=m+x; z+=m+y; cout<<x<<', '<<y<<', '<<z<<endl; } void main() { int m=2; func(::m, m, m); cout<<::m<<', '<<m<<endl; func(m, ::m, m); } output 1,24,24 6,24 24,144,312 </pre>

7	<pre>int p=1, s=0; for (int x=1; x<7; x++) { s+=p*=x+1; cout<<p<<" , "<<s<<endl; } output 2 , 2 6 , 8 24 , 32 120 , 152 720 , 872 5040 , 5912</pre>	8 <pre>int p=3; void goodday(int &m, int n) { p+=m+n; m+=p; n+=m; cout<<m<<', '<<n<<', '<<p<<endl; } void main() { int p=2; goodday(p, 5); cout<<p<<', '<<::p<<endl; goodday(p, ::p); } output 12,17,10 12,10 44,54,32</pre>
9	<pre>void myfn(int& x, int y, int& z) { x *= y += z; z += x += y; cout<<x<<', '<<y <<', '<<z<< endl; } void main() { int a = 2, b = 3; myfn(a, b, a); myfn(b, a, a); } output 30,5,30 240,60,270</pre>	10 <pre>#include<iostream.h> void main() { char ch='C'; cout<<ch++<<endl; cout<<(int)ch<<endl; ch+=32; cout<<--ch<<endl; cout<<(int)ch<<endl; } output C 68 c 99</pre>
11	<pre>void myfn(int &a, int b) { int s=a+b; a*=s+b; s+=a+b; b*=s+a; s+=a+b+s; cout<<s<<', '<<a<<', '<<b<<endl; } void main() { int p=2, q=3; myfn(p, 5); cout<<p<<', '<<q<<endl; myfn(q, p); cout<<p<<', '<<q<<endl; } output 396,24,300 24,3 9129,153,8568 24,153</pre>	12 <pre>int p=3; void paramtest(int& q, int r) { p+=q+=r+=p; p+=q+r; q+=r+p; r+=p+q; cout<<p<<', '<<q<<', '<<r<<endl; } void main() { int p=5; paramtest(::p, p); paramtest(p, ::p); } output 112,112,232 794,1247,2265</pre>

<pre> 13 void swapr(int&a, int&b) { int temp = a; a = b; b = temp; cout<<a<<"\t"<<b<<endl;} void main() { clrscr(); int x=5, y=7; swapv(x,y); cout<<x<<"\t"<<y<<endl; swapr(x,y); cout<<x<<"\t"<<y<<endl;} output 7 5 7 5 5 7 5 7 </pre>	<pre> 14 void swapr(int a, int b) { int temp = a; a = b; b = temp; cout<<a<<"\t"<<b<<endl;} void main() { clrscr(); int x=5, y=7; swapv(x,y); cout<<x<<"\t"<<y<<endl; swapr(x,y); cout<<x<<"\t"<<y<<endl;} output 7 5 5 7 7 5 5 7 </pre>
<p>Give the output of the following program: #include<iostream.h> void main() { int a=4, b=3; a=(a+b) * (a-b); b=2*a*b; cout<<a<<', '<<b<<endl; a=a+5*b; b=a*b; cout<<a<<', '<<b<<endl; a=a+b; b=4*a+b; cout<<a<<', '<<b<<endl; } output 7,42 217,9114 9331,46438</p>	<p>To find the sum of series given below. Return value of the function is double, name of the function is sumofseq() and it has two parameters: double x and int n. Do not use pow() to calculate power of x.</p> $1 - \frac{x}{2!} + \frac{x^2}{4!} - \frac{x^3}{6!} + \frac{x^4}{8!} - \dots + (-1)^n \frac{x^n}{(2n)!}$ <pre> double sumofseq(double x,int n) { double s=1, p=1, f=1; for (int k=1; k<=n; k++) { int t=2*k; p*= -x; f*=t*(t-1); s+=p/f; } return s; } </pre>
<p>15 To find sum of a series given below. Return value of the function is int, name of the function is sum() and it has an integer parameter n. (1)+(1+2+3)+(1+2+3+4+5)+(1+2+3+4+5+6+7)+.. +(1+2+3+4+5....+2n-1) int sum(int n) { int sg=0, s=0; for (int k=1; k<=n; k++) { int t=2*k-1; s+=2*k-1; sg+=s; } return sg; }</p>	<p>16 // function to check palindromic number</p> <pre> int checkpalidrome(int n) { int num=0, temp=n; while (temp>=0) { int digit=temp%10; num=10* num + digit; temp/=10; } return temp== n; } </pre>

<pre>21 7</pre>	<pre>//function to displays first n Prime Nos #include<iostream.h> void generateprime(int n) { int k=2, count=0; while (k<n) { int x=2, prime=1; while (x<n && prime==1) if (n%x==0) prime =0; else x++; if (prime==1) { cout<<k<<endl; count++; } k++; } } void main() { int n; cout<<"Input n? "; cin>>n; generateprime(n); }</pre>	<pre>18 // function to Display sum of Prime between 2 & n #include<iostream.h> void sumofprime(int n) { int sum=0; for(int k=2; k<=n; k++) { int x=2, prime =1; while(x<k && prime==1) if(k%x==0) prime=0; else x++; if (prime==1) { cout<<k<<endl; sum += k; } } cout<<"Sum Of Prime="<<sum; } void main() { int n; cout<<"Input n? "; cin>>n; sumofprime(n); }</pre>
<pre>19</pre>	<pre>int hcf(int a, int b) { int r; do { r=a % b; a=b; b=r; } while(r>0); return a; }</pre>	<pre>20 int lcm(int a, int b) { int r, p= a * b; do { r =a%b; a =b; b =r; } while (r > 0); return p/a; }</pre>
<pre>21</pre>	<pre>// function to check Fibonacci no void checkfibonacci(int n) { int f1=1, f2=1, fibo=0; while (f1+f2<=n) { int f3=f1+f2; if (f3 == n) fibo=1; f1=f2; f2=f3; } if (fibo== 1) cout<<" Fibonacci no \n"; else cout<<" Not Fibonacci no \n"; }</pre>	<pre>// Displays Prime Nos between 2 and n void generateprime(int n) { for(int k=2; k<=n; k++) { int x=2, prime=1; while(x<n && prime==1) { if (n%x ==0) prime=0; x++; } if (prime==1) cout<<k<<endl; } }</pre>