### 1. s=1! + 2! + 3! + ..... + n!

```
#include <iostream>
using namespace std;

int fakt(int n)
{
	int f = 1;
	for(int i=1;i<=n;i++)
	{
		f *= i;
	}
	return f;
}

int main()
{
	int n;
	cout << "Enter n: ";
	cin >> n;
	int suma = 0;
	for(int i=1;i<=n;i++)
	{
		suma += fakt(i);
	}
	cout << "\nThe result is " << suma << endl;
	cin.get();
	cin.get();
	return 0;
}
```

### 2. y=x+x*x+x*x*x.....+x^n

```
#include <iostream>
using namespace std;

int power(int x, int n)
{
	int p = 1;
	for(int i=1;i<=n;i++)
	{
		p *= x;
	}
	return p;
}

int main()
{
	int x,n;
	cout << "Enter x: ";
```

```
	cin >> x;

	  cout << "Enter n: ";
	cin >> n;

	int s = 0;
	for(int i=1;i<=n;i++)
	{
		s += power(x, i);
	}
	int y = s;
	cout << "\nThe result is " << y << endl;
	cin.get();
	cin.get();
	return 0;
}
```

4. $y = \begin{cases} 3x2 & x > 5 \\ 1+x^1+\ldots x^n & x \leq 5 \end{cases}$

```
#include <iostream>
using namespace std;
int exponent(int,int); //prototip
int main()
{
	int x,y,n,i;
	cout<<"Enter x:";
	cin>>x;
	cout<<" Enter n:";
	cin>>n;
	if(x>5)
		y=3*x*x;
	else
	{
		y=1;
	for(i=1;i<=n;i++)
		y=y+exponent(x,i);
}
cout<<"The result: "<<y;
	cin.get();
	cin.get();
return 0;
}
int exponent(int a,int b)
{
	int f,i;
	f=1;
	for(i=1;i<=b;i++)
```

```
            f=f*a;
      return f;
}
```

5. $y = 2x + (2n+1)!+(3n)!+\frac{n!}{x}$

```
#include <iostream>
double fakt(int m);
using namespace std;
int main()
{
      double a,b,c,x,y;
      int n;
      cout << "\nEnter x: ";
      cin >> x;
      cout << "\nEnter n: ";
      cin >> n;

      a=fakt(2*n+1);
      b=fakt(3*n);
      c=fakt(n);

      y=2*x+a+b+c/x;

      cout << "\nThe results y="
           << y
           << "\n\n";

      cin.get();
      cin.get();

return 0;
}
double fakt(int m)
{
      double F;
      int i;
      F=1;
      for (i=1;i<=m;i++)
            F=F*i;
      return F;
}
```

1. Example of Boolean function – is one number even!

```
#include <iostream>
using namespace std;

bool Paren (int);

int main()
```

```
{
int n;
      cout<<"\n Enter n:  ";
      cin>>n;

if (Paren (n))
      cout<<"\n The number "<<n<<"  is EVEN!"<<endl;
else
      cout<<"\n The number "<<n<<"  is ODD!"<<endl;

cin.get();
cin.get();
return 0;
}
bool Paren (int n)
{
if ( n%2 ==0)
return true;
else
return false;
}
```

1. Example of Boolean function – is one number simple!

```
#include <iostream>
using namespace std;

bool Prost (int);

int main()
{

int n;

      cout<<"\n Vnesi vrednost za n:  ";
      cin>>n;
if (Prost (n)==true)
      cout<<"\n The number "<<n<<"  is SIMPLE!"<<endl;
else
      cout<<"\n The number "<<n<<"  is not SIMPLE!"<<endl;

cin.get();
cin.get();
return 0;
}

bool Prost (int n)
{ bool eprost=true;

for (int i=2;i<=n/2; i++)
      if (n%i==0)
            eprost=false;
return eprost;
```

```
}
```

Sum from 0 till n

```
#include <iostream>
using namespace std;

int suma(int);

int main() {
      int n;
      cout<<"Enter one number: \n";
      cin>>n;
      cout<<"The sum is: "<<suma(n);
cin.get();
cin.get();
return 0;
}
int suma(int n)
{ int s;
s=0;
for (int i=0; i<=n; i++)
s=s+i;
return s;
}
```

s=1+2n+3n....n*n;

```
#include <iostream>
using namespace std;

int sum(int);

int main()
{ int n;
cout<<"Enter 1 number: ";
cin>>n;
cout<<"The result is: "<<sum(n);
cin.get();
cin.get();
return 0;
}
int sum(int n)
{
      int i,s;
      s=1;
      for (i=2;i<=n;i++)
            s=s+i*n;
      return s;
}
```

1. *Funkcija* $g=(2x)! + 5! + \sum_{i=1}^{n}(2i+a)$

```
# include <iostream>
  using namespace std;

 int Fakt(int a);
 double Sum(int n, double a);

  int main()
   {
    int n,x;
    double a,g;
    cout<<"\nEnter n,a and x:";
    cin>>n>>a>>x;
    g=Fakt(2*x)+Fakt(5)+Sum(n,a);
    cout<<"\nThe result for g="<<g<<endl;

    cin.get();
      cin.get();
      return 0;
   }

  int Fakt(int a)
   {
    int P=1;
    for(int i=1;i<=a;i++)
     P=P*i;
    return P;
   }
  double Sum(int n, double a)
   {
    double S=0;
    for(int i=1;i<=n;i++);

    S=S+(2*i+a);

    return S;
   }
```

2. *h=2! + n! + (2*n+1/4)! + (n/2)!*

```
# include <iostream>
using namespace std;

int Fakt(int a);

int main()
 {
  int n;
```

```
  double h;
  cout<<"\nEnter n: ";
  cin>>n;
  h=Fakt(2)+Fakt(n)+Fakt(2*n+1/4)+Fakt(n/2);
  cout<<"\nThe result for h="<<h<<endl;

  cin.get();
   cin.get();
   return 0;
 }

int Fakt(int a)
 {
  int P=1;
  for(int i=1;i<=a;i++)
   P=P*i;
  return P;
 }
```

3. $g=\begin{cases} 2a+3x & x > 3.5 \\ a-4 & x \leq 3.55 \end{cases}$

```
  # include <iostream>
using namespace std;

double Get(double a, double x);

int main()
     {
      double a,x;
      cout<<"\nVnesi vrednost za a i x";
      cin>>a>>x;
      cout<<"\nRezultatot za finkcijata g="<<Get(a,x)<<endl;
         cin.get();
      cin.get();
        return 0;
     }

double Get(double a, double x)
     {
      double g;
      if(x>3.5)
       g=2*a+3*x;
      else
       g=a-4;

     return g;
     }
```

5. *Funkcija* $g=4x+(2n+1)!+2!+3\sum_{i=1}^{n+1}(2x+i)$

```
# include <iostream>
using namespace std;
int Fakt(int a);
double Sum(int n, double x);

int main()
     {
      int n;
      double x,g;
      cout<<"\nEnter n: ";
      cin>>n;
      cout<<"\nEnter x: ";
      cin>>x;

      g=Fakt(4*x)+Fakt(2*n+1)+Fakt(2)+3*Sum(n,x);
      cout<<"\n g= "<<g<<endl;

      cin.get();
        cin.get();
        return 0;
     }
int Fakt(int a)
     {
      int f=1;
      for(int i=1;i<=a;i++)
       f=f*i;
      return f;
     }
double Sum(int n, double x)
     {
      double S=0;
      for(int i=1;i<=n+1;i++);

      S=S+(2*x+i);

      return S;
     }
```

6. $$g=\frac{x}{2}+(3n+2)!$$
$$h=2x+\frac{n!}{2}+4\sum_{i=1}^{n+1}(3i)$$

```
#include <iostream>
using namespace std;
```

```
double fakt(int m);
double sum(int m,float k);

int main()
{
	double x,g,h;
	int n;
	cout << "\nEnter x: ";
	cin >> x;
	cout << "\nEnter n: ";
	cin >> n;

	g=x/2+fakt(3*n+2);
	h=(2*x)+fakt(n)/2+4*sum(n+1,3);

	cout << "\nThe results for g="
	     << g
	     << "\nThe results for h="
	     << h
	     << "\n\n";
	cin.get();
	cin.get();
return 0;
}

double fakt(int m)
{
	double F;
	int i;
	F=1;
	for (i=1;i<=m;i++)
		F=F*i;
	return F;
}

double sum(int m,float k)
{
	double s;
	int i;
	s=0;
	for (i=1;i<=m;i++)
		s=s+(k*i);
	return s;
}
```