For Loops

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

int main ()

{int id;
    double gross, hours, rate, net, fed, state, fica, total;



    //----------------------------------------------
        cout << "Enter Employee Id: " ;
        cin >> id;
        cout << "Enter Employee hours worked: " ;
        cin >> hours;
        cout << "Enter Employee pay rate: " ;
        cin >> rate;
    //----------------------------------------------
        gross = hours* rate;
        fed=gross*0.2;
        state=gross*0.05;
        fica=gross*0.0765;
        total=fed+state+fica;
        net = gross-total;
    //----------------------------------------------
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);
        cout << "Gross : $ " <<  gross <<  "\t";
        cout << "Hours : " <<  hours <<  endl;
        cout << "Rate  : " <<  rate <<  endl;
        cout << "net  : " <<  net <<  endl;
 return (0);
}
```

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

int main ()

{int i, id;
    double gross, hours, rate, net, fed, state, fica,
     total;

    for (i=0;i<10;i++)
     {
    //----------------------------------------------
        cout << "Enter Employee Id: " ;
        cin >> id;
        cout << "Enter Employee hours worked: " ;
        cin >> hours;
        cout << "Enter Employee pay rate: " ;
        cin >> rate;
    //----------------------------------------------
        gross = hours* rate;
        fed=gross*0.2;
        state=gross*0.05;
        fica=gross*0.0765;
        total=fed+state+fica;
        net = gross-total;
    //----------------------------------------------
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);
        cout << "Gross : $ " <<  gross <<  "\t";
        cout << "Hours : " <<  hours <<  endl;
        cout << "Rate  : " <<  rate <<  endl;
        cout << "net  : " <<  net <<  endl;

     }
 return (0);
}
```

While Loops

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

int main ()

{int id;
     double gross, hours, rate, net, fed, state, fica, total;
```

This is a while loop primed by a beginning value for the employee id.

```
     //---------------------------------------------------
        cout << "Enter Employee Id: " ;
        cin >> id;
        cout << "Enter Employee hours worked: " ;
        cin >> hours;
        cout << "Enter Employee pay rate: " ;
        cin >> rate;
     //---------------------------------------------------
        gross = hours* rate;
        fed=gross*0.2;
        state=gross*0.05;
        fica=gross*0.0765;
        total=fed+state+fica;
        net = gross-total;
     //---------------------------------------------------
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);
        cout << "Gross : $ " <<  gross <<  "\t";
        cout << "Hours : " <<  hours <<  endl;
        cout << "Rate  : " <<  rate <<  endl;
        cout << "net  : " <<  net <<  endl;
 return (0);
}
```

This set of statements is to insure the loop will have the next person's id to check.

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

int main ()

{int id;
     double gross, hours, rate, net, fed, state, fica,
     total;
     cout << "Enter Employee Id: " ;
     cin >> id;

     while (id > 0)
       {
```

The brackets show where the beginning and ending of the loop

```
     //---------------------------------------------------

        cout << "Enter Employee hours worked: " ;
        cin >> hours;
        cout << "Enter Employee pay rate: " ;
        cin >> rate;
     //---------------------------------------------------
        gross = hours* rate;
        fed=gross*0.2;
        state=gross*0.05;
        fica=gross*0.0765;
        total=fed+state+fica;
        net = gross-total;
     //---------------------------------------------------
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);
        cout << "Gross : $ " <<  gross <<  "\t";
        cout << "Hours : " <<  hours <<  endl;
        cout << "Rate  : " <<  rate <<  endl;
        cout << "net  : " <<  net <<  endl;
        cout << "Enter Employee Id: " ;
        cin >> id;

       }
 return (0);
}
```

Do While Loops

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

int main ()

{int id;
    double gross, hours, rate, net, fed, state, fica, total;
```

This is a *do while* loop.

```
    //-------------------------------------------------
        cout << "Enter Employee Id: " ;
        cin >> id;
        cout << "Enter Employee hours worked: " ;
        cin >> hours;
        cout << "Enter Employee pay rate: " ;
        cin >> rate;
    //-------------------------------------------------
        gross = hours* rate;
        fed=gross*0.2;
        state=gross*0.05;
        fica=gross*0.0765;
        total=fed+state+fica;
        net = gross-total;
    //-------------------------------------------------
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);
        cout << "Gross : $ " <<  gross <<  "\t";
        cout << "Hours : " <<  hours <<  endl;
        cout << "Rate  : " <<  rate <<  endl;
        cout << "net  : " <<  net <<  endl;
 return (0);
}
```

This set of statements is to check to see if the loop needs to be executed again or terminates.

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

int main ()

{int count,id;
    double gross, hours, rate, net, fed, state, fica,
    total;

    count =0;
    do
      { count=count+1;
    //-------------------------------------------------
        cout << "Enter Employee Id: " ;
        cin >> id;
        cout << "Enter Employee hours worked: " ;
        cin >> hours;
        cout << "Enter Employee pay rate: " ;
        cin >> rate;
    //-------------------------------------------------
        gross = hours* rate;
        fed=gross*0.2;
        state=gross*0.05;
        fica=gross*0.0765;
        total=fed+state+fica;
        net = gross-total;
    //-------------------------------------------------
        cout.setf(ios::fixed);
        cout.setf(ios::showpoint);
        cout.precision(2);
        cout << "Gross : $ " <<  gross <<  "\t";
        cout << "Hours : " <<  hours <<  endl;
        cout << "Rate  : " <<  rate <<  endl;
        cout << "net  : " <<  net <<  endl;
      }
    while (count < 10);
 return (0);
}
```

Nested For Loops

This is a nested *for* loop.
The new inside loop uses the integer variable *j* and is initialized to 0; then checked each time to see if it has reached the stop value of 7; and then incremented by 1.

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

int main ()

{int i, id;
      double gross, hours, rate, net, fed, state, fica, total;


   for (i=0;i<10;i++)
       {
      //-------------------------------------------------
         cout << "Enter Employee Id: " ;
         cin >> id;

         cout << "Enter hours worked: " ;
         cin >> hours;




         cout << "Enter Employee pay rate: " ;
         cin >> rate;
      //-------------------------------------------------
         gross = hours* rate;
         fed=gross*0.2;
         state=gross*0.05;
         fica=gross*0.0765;
         total=fed+state+fica;
         net = gross-total;
      //-------------------------------------------------
         cout.setf(ios::fixed);
         cout.setf(ios::showpoint);
         cout.precision(2);
         cout << "Gross : $ " <<  gross <<  "\t";
         cout << "Hours : " <<  hours <<  endl;
         cout << "Rate  : " <<  rate <<  endl;
         cout << "net   : " <<  net <<  endl;


       }
 return (0);
}
```

These two lines in the left box have now been replaced by the expanded set of code on the right side.

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

int main ()

{int i,j, id;
      double gross, hours, rate, net, fed, state, fica,
      total, totalhrs;

   for (i=0;i<10;i++)
       {
      //-------------------------------------------------
         cout << "Enter Employee Id: " ;
         cin >> id;

         totalhrs=0;
         for (j=0;j<7;j++)
          {cout << "Enter hours for day " <<j<<" :" ;
           cin >> hours;
           totalhrs+=hours;
          }
         cout << "Enter Employee pay rate: " ;
         cin >> rate;
      //-------------------------------------------------
         gross = totalhrs* rate;
         fed=gross*0.2;
         state=gross*0.05;
         fica=gross*0.0765;
         total=fed+state+fica;
         net = gross-total;
      //-------------------------------------------------
         cout.setf(ios::fixed);
         cout.setf(ios::showpoint);
         cout.precision(2);
         cout << "Gross : $ " <<  gross <<  "\t";
         cout << "Hours : " <<  totalhrs <<  endl;
         cout << "Rate  : " <<  rate <<  endl;
         cout << "net   : " <<  net <<  endl;


       }
 return (0);
}
```