

function-definition:
type-identifier function-identifier parameters

type-identifier:
id
simple-type-specifier

function-identifier:
id

parameters:
()
(parameter-list)

parameter-list
parameter
parameter-list , parameter

parameter:
type-identifier parameter-identifier

parameter-identifier:
id

```
#include <iostream>
using namespace std;
bool odd(int i)
{ return i%2;
}
int main()
{
    for (int a=0;a<10;a++) if (odd(a)) cout << endl << a << " is odd.";
    cout << endl;
    return 0;
}
```

Figure 1. p01: function *odd*.

Program **p01** prints:

```
1 is odd.
3 is odd.
5 is odd.
7 is odd.
9 is odd.
```

```
#include <iostream>
#include <iomanip>
#include <cmath>
using namespace std;
double Principal(void)
{   cout << "Enter the principal. ";
    double P;
    cin >> P;
    return P;
}
double Interest(void)
{   cout << "Enter the APR. ";
    double APR;
    cin >> APR;
    return APR/1200;
}
int Term(void)
{   cout << "Enter the term in years. ";
    double years;
    cin >> years;
    return (int)(years*12);
}
double Payment(double P,double i,int n)
{   return P*i/(1-pow(1+i,-n));
}
int main()
{   double P=Principal();
    double i=Interest();
    int n=Term();
    double R=Payment(P,i,n);
    cout << "Your monthly payment is $" << fixed << setprecision(2) << R << ".";
    cout << endl;
    return 0;
}
```

Figure 2. p02: Project p02 with functions.

Program p01 prints:

```
Enter the principal. 1000
Enter the APR. 8
Enter the term in years. 1
Your monthly payment is $86.99.
```

```
#include <iostream>
#include <fstream>
#include <string>
using namespace std;
void CopyMgr(istream& i, ostream& o)
{   for (;;) {
        string s;
        i >> s;
        if (i.eof()) break;
        o << endl;
        o << s;
    }
    o << endl;
}
int main()
{   ifstream i("i03.dat");
    ofstream o("o03.dat");
    CopyMgr(i,o);
    i.close();
    o.close();
    return 0;
}
```

Figure 3. p03: Reading a text file.

```
I like eels,
except as meals
and how they feels.
```

Figure 4. File i03.dat.

```
I
like
eels,
except
as
meals
and
how
they
feels.
```

Figure 5. File o03.dat.