Problem 1

In [9]:

```
a=-11
b=11
c=9.0
d=b/a
e=c/a
s= 'b/a = %g' % (b/a)
```

In [10]:

```
print(d, "\t", e, "\t", s)
```

```
-1.0    -0.8181818181818182    b/a = -1
```

Problem 2

In [11]:

```
a=3
b=float(a)
c=3.9
d=int(c)
e=round(c)
f=int(round(c))
d=str(c)
e='-4.2'
f=float(e)
```

In [25]:

```
print(type(a),"->",a)
print(type(b),"->",b)
print(type(c),"->",c)
print(type(d),"->",d)
print(type(e),"->",e)
print(type(f),"->",f)
```

```
<class 'int'> -> 3
<class 'float'> -> 3.0
<class 'float'> -> 3.9
<class 'str'> -> 3.9
<class 'str'> -> -4.2
<class 'float'> -> -4.2
```

Problem 4

In [27]:

```
import math as m
```

In [30]:

```
def eq1(x):
    return m.sinh(x)
```

In [52]:

```
def eq2(x):
    return 0.5 * (m.pow(m.e, x) - m.pow(m.e, -x))
```

In [56]:

```
eq1(1) == eq2(1)
```

Out[56]:

```
True
```

Problem 5

In [60]:

```
def y(x):
    return  x*m.tan(c) - (g*x**2) / (2*v0*m.cos(c)**2) + y0
```

In [61]:

```
g = 9.81
c = 1
y0 = 1
v0 = 1
```

In [62]:

```
y(1)
```

Out[62]:

```
-14.244762091441489
```

Problem 6

In [65]:

```
def func(a, p, n):
    return a * (1 + p/100) ** n
```

In [68]:

```
func(10000000,0.05,3)
```

Out[68]:

```
10015007.501249997
```