In[1]:=
```
a = 1;
b = 2;
c = a + b;
```

In[4]:=
```
Print[c];
```

```
3
```

In[5]:=
```
d = (c^2) * a
```

Out[5]=
```
9
```

In[6]:=
```
testList = {4, 5, 6};
AppendTo[testList, a];
Print[testList]
```

```
{4, 5, 6, 1}
```

In[9]:=
```
For[listIndex = 1, listIndex ≤ Length[testList], listIndex = listIndex + 1,
  If[ Mod[ testList[[listIndex]] , 2] == 0,
   Print[testList[[listIndex]]]
  ]
 ];
```

```
4
6
```

In[10]:=
```
myF[x_] := C1 x^2 + Sin[x] + 2 x * Tan[3 x] + C2
```

In[11]:=
```
myF[x]
myF[x] /. {x → y, C2 → 0, C1 → z}
myF[y] /. {y → Sin[z]}
 myF[x] /. {x → 2}
N[myF[x] /. {x → 2}]
```

Out[11]=
$$C2 + C1\ x^2 + \text{Sin}[x] + 2\ x\ \text{Tan}[3\ x]$$

Out[12]=
$$y^2\ z + \text{Sin}[y] + 2\ y\ \text{Tan}[3\ y]$$

Out[13]=
$$C2 + C1\ \text{Sin}[z]^2 + \text{Sin}[\text{Sin}[z]] + 2\ \text{Sin}[z]\ \text{Tan}[3\ \text{Sin}[z]]$$

Out[14]=
$$4\ C1 + C2 + \text{Sin}[2] + 4\ \text{Tan}[6]$$

Out[15]=
$$-0.254727 + 4.\ C1 + C2$$

Tutorial 1 - Exercises

In[5]:=
```
myF2[x_] := 1 + x^2  - a x^3 + b x^4 + c x^4
```

In[6]:=
```
Solve[D[myF2[x], {x, 1}] == 0, x ]
myF2[x] /. {x → 0}
N[myF2[x] /. {x → 1}]
N[myF2[x] /. {x → π}]
(*Plot[myF2[x]/.{a→1, b→1}, {x, -5, 5}]*)
```

Out[6]= $\left\{\{x \to 0\}, \left\{x \to \frac{3\,a - \sqrt{9\,a^2 - 32\,b - 32\,c}}{8\,(b+c)}\right\}, \left\{x \to \frac{3\,a + \sqrt{9\,a^2 - 32\,b - 32\,c}}{8\,(b+c)}\right\}\right\}$

Out[7]= 1

Out[8]= $2. - 1.\,a + b + c$

Out[9]= $10.8696 - 31.0063\,a + 97.4091\,b + 97.4091\,c$