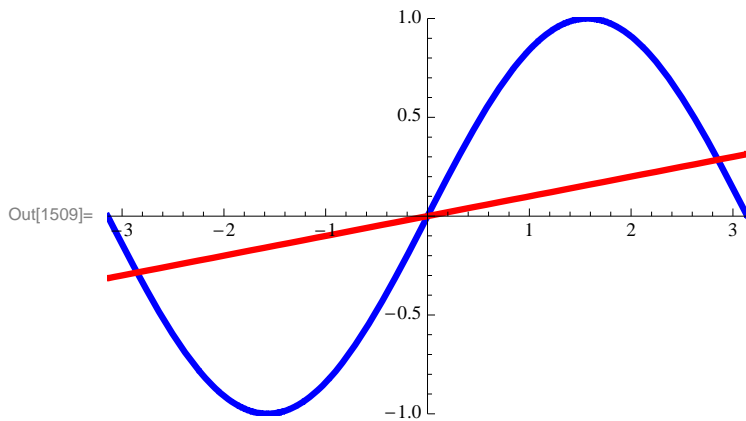```
(** EQUAZIONI NONLINEARI **)
```
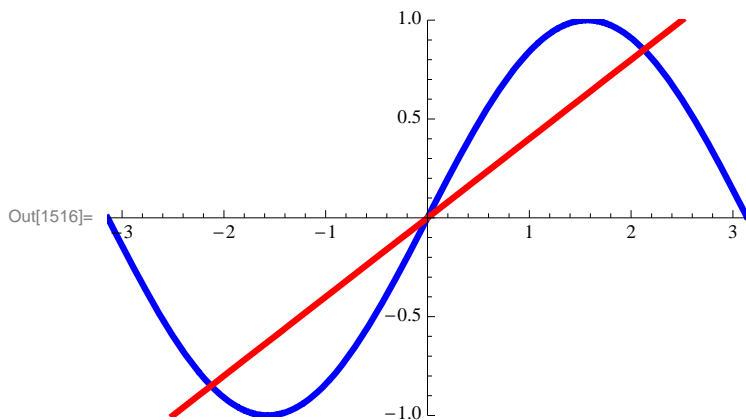
In[1505]:=
```
Clear[f, g, a, a0];
f[x_] := Sin[x];
g[x_] := a * x;
a0 = 0.1;
Plot[{f[x], g[x] /. a → a0}, {x, -Pi, Pi}, PlotRange → {{-Pi, Pi}, {-1, 1}},
 PlotStyle -> {{RGBColor[0, 0, 1], Thickness[0.01]}, {RGBColor[1, 0, 0], Thickness[0.01]}}]
```

Out[1509]=



In[1510]:=
```
Clear[ff, a0];
ff[1][x_] := f[x];
Do[a0 = (i - 1) * 0.4; ff[i][x_] = g[x] /. a → a0, {i, 2, 5}]
```

In[1513]:=
```
a0 = 0.;
i = 1;
While[a0 ≤ 2., {pl[i] = Plot[{f[x], g[x] /. a → a0}, {x, -Pi, Pi},
    PlotRange → {{-Pi, Pi}, {-1, 1}}, PlotStyle -> {{RGBColor[0, 0, 1], Thickness[0.01]},
      {RGBColor[1, 0, 0], Thickness[0.01]}}]; i += 1; a0 += 0.4}];
```
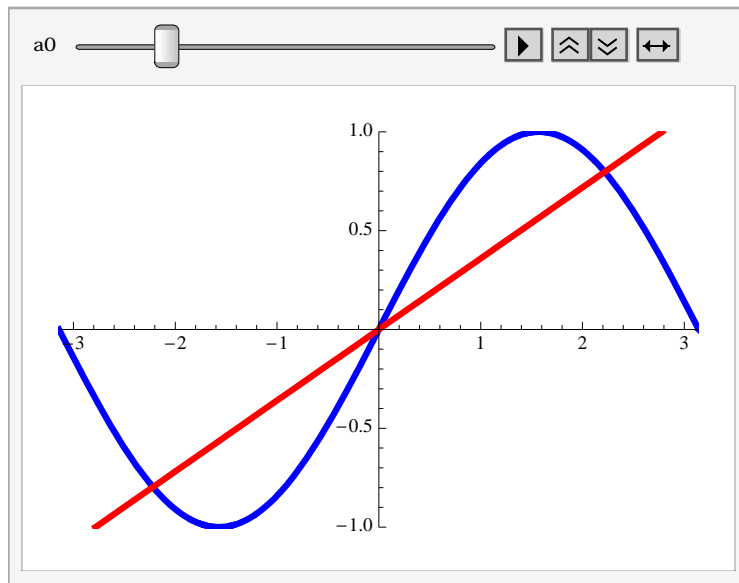
In[1516]:=
```
Show[pl[2]]
```

Out[1516]=

In[1517]:= 
```
Clear[a0];
Animate[
 Plot[{f[x], g[x] /. a → a0}, {x, -Pi, Pi}, PlotRange → {{-Pi, Pi}, {-1, 1}}, PlotStyle ->
   {{RGBColor[0, 0, 1], Thickness[0.01]}, {RGBColor[1, 0, 0], Thickness[0.01]}}],
 {a0, 0, 2}, AnimationRunning → False]
```
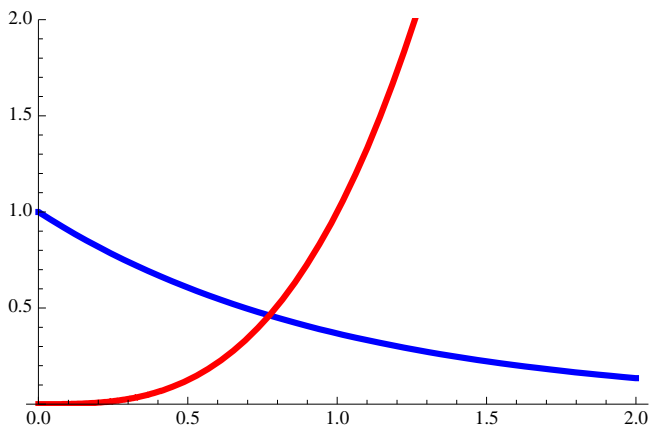
Out[1518]=



In[1519]:= 
```
Clear[f1, g1];
f1[x_] := Exp[-x];
g1[x_] := x^3;
Plot[{f1[x], g1[x]}, {x, 0, 2}, PlotRange → {0, 2},
 PlotStyle → {{RGBColor[0, 0, 1], Thickness[0.01]}, {RGBColor[1, 0, 0], Thickness[0.01]}}]
```

Out[1522]=

In[1523]:= `Clear[f2];`
`f2[x_] := Exp[-x] - 1 / 2;`
`Plot[f2[x], {x, 0, 2}, PlotRange → {-1 / 2, 1 / 2},`
` PlotStyle → {{RGBColor[0, 0, 1], Thickness[0.01]}}]`

Out[1525]=