Numerical Solution of Initial Value Problems in Mathematica

The function **NDSolve** numerically solves differential equations.

In[3]:=
```
solution = NDSolve[{y'[t] == Sin[y[t]], y[0] == π/6}, y[t], {t, 0, 2 π}]
```

Out[3]=
```
{{y[t] → InterpolatingFunction[ Domain: {{0., 6.28 }}
                                Output: scalar ][t]}}
```

In[6]:=
```
Plot[y[t] /. solution, {t, 0, 2 π}]
```

Out[6]=