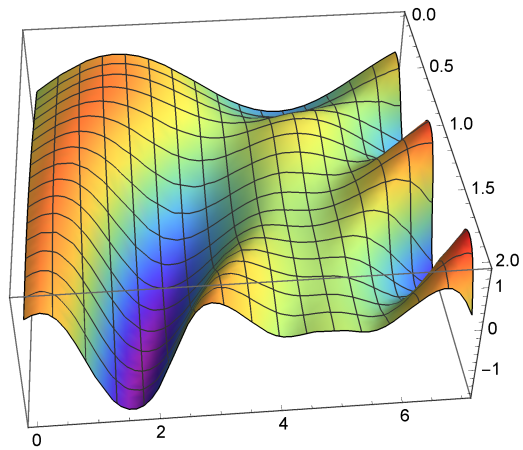


```
In[66]:= u[x_, t_] := (Sin[x] + Sin[t]) * Sin[Cos[x * t]]
```

```
In[67]:= Plot3D[u[x, t], {x, 0, 2}, {t, 0, 7}, ColorFunction -> "Rainbow"]
```

```
Out[67]=
```



```
In[73]:= D[u[x, t], t] - D[D[u[x, t], x], x]
```

```
Out[73]= t^2 Cos[t x] Cos[Cos[t x]] (Sin[t] + Sin[x]) + 2 t Cos[x] Cos[Cos[t x]] Sin[t x] -  
x Cos[Cos[t x]] (Sin[t] + Sin[x]) Sin[t x] + Cos[t] Sin[Cos[t x]] +  
Sin[x] Sin[Cos[t x]] + t^2 (Sin[t] + Sin[x]) Sin[t x]^2 Sin[Cos[t x]]
```

```
In[74]:= u[0, t]
```

```
Out[74]= Sin[1] Sin[t]
```

```
In[75]:= u[1, t]
```

```
Out[75]= (Sin[1] + Sin[t]) Sin[Cos[t]]
```

```
In[76]:= Plot[{u[x, 0.5], u[x, 2], u[x, 3.5], u[x, 5], u[x, 6.5]},  
             {x, 0, 2}, PlotLegends -> "Expressions"]
```

