```
(*Zadatak 1*)
DSolve[(y[x])^2 + (y'[x])^2 == 1, y[x], x]
```

$$\{\{y[x] \to -\text{Sin}[x - C[1]]\}, \{y[x] \to \text{Sin}[x + C[1]]\}\}$$

```
(*Zadatak 2*)
DSolve[y[x] * y'[x] - (y'[x])^2 == x, y[x], x]
```

$$\text{Solve}\left[\left\{x == -\frac{\text{K\$6016}\,\text{ArcSin}[\text{K\$6016}]}{\sqrt{1-\text{K\$6016}^2}} + \frac{\text{K\$6016}\,C[1]}{\sqrt{1-\text{K\$6016}^2}},\ y[x] == \text{K\$6016} + \frac{x}{\text{K\$6016}}\right\}, \{y[x], \text{K\$6016}\}\right]$$

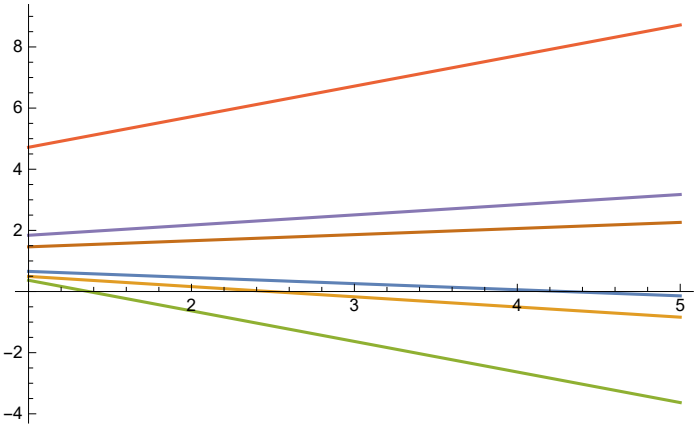
```
(*Zadatak 3*)
DSolve[y[x] == x * (y'[x])^2 + (y'[x])^2, y[x], x]
```

$$\left\{\left\{y[x] \to \frac{1}{4}\left(4 + 4x - 4\sqrt{1+x}\,C[1] + C[1]^2\right)\right\}, \left\{y[x] \to \frac{1}{4}\left(4 + 4x + 4\sqrt{1+x}\,C[1] + C[1]^2\right)\right\}\right\}$$

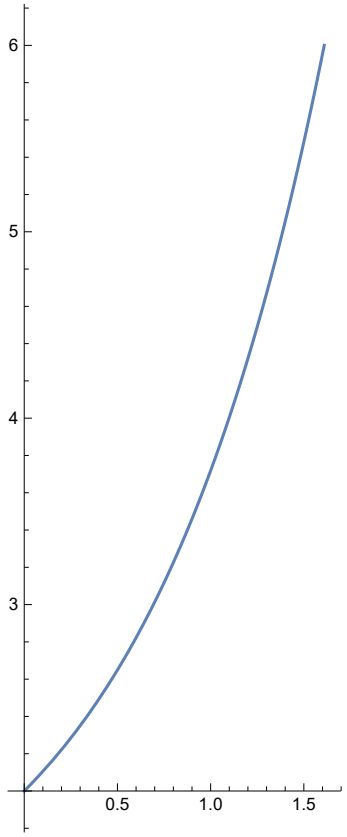
```
(*Zadatak 4*)
sol = DSolve[y[x] == x * y'[x] + y'[x]^2 + Exp[y'[x]], y[x], x]
```

$$\left\{\left\{y[x] \to e^{C[1]} + x\,C[1] + C[1]^2\right\}\right\}$$

```
Plot[Evaluate[Table[y[x] /. sol /. {C[1] -> 1/k}, {k, -5, 5, 2}]], {x, 1, 5}]
```



```
(*Crtanje resenja u parametarskom obliku*)
ParametricPlot[{Log[t], t + 1}, {t, 1, 5}]
```



```
ParametricPlot[{3 / (1 - t) ^2 - 1, 3 * t^2 / (1 - t) ^2}, {t, 2, 5}]
```