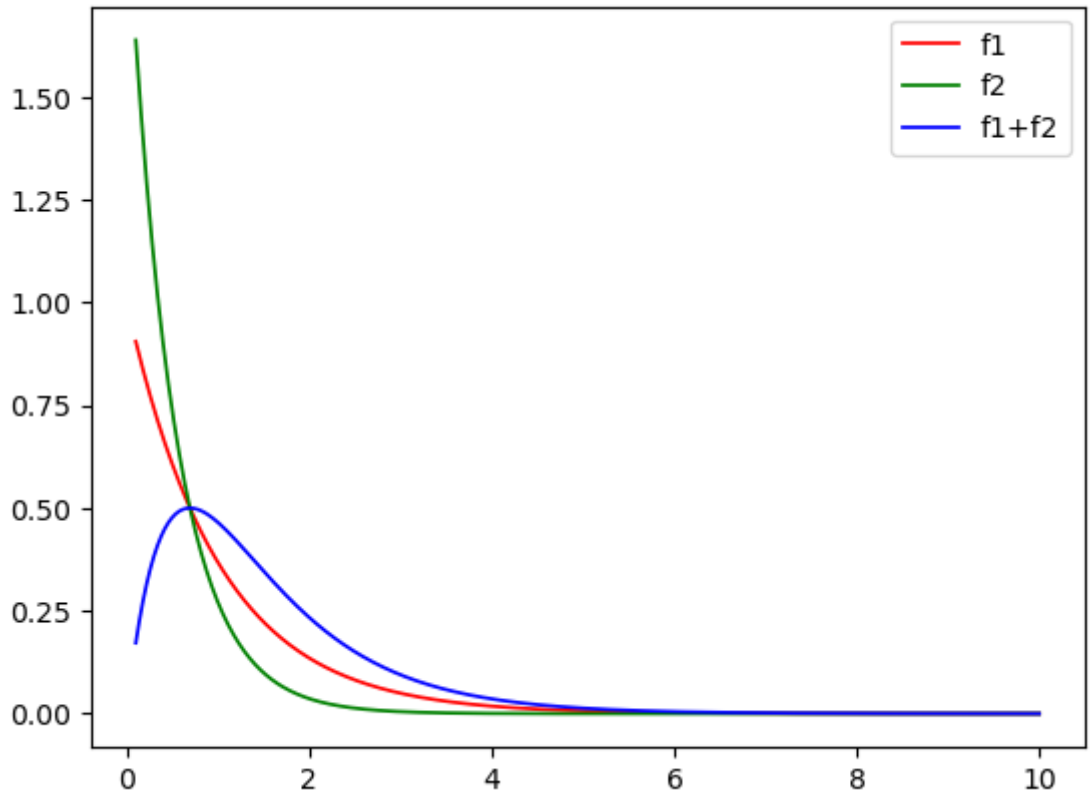
In [6]:

```
import numpy as np
import matplotlib.pyplot as plt

# generate two independent exponential PDFs
lamda1 = 1
lamda2 = 2
# x axis vale
x = np.linspace(0.1,10,500)
# get y axis value from the fomula F(x,lamda) = lamda*np.exp(-lamda/x)
f1 = lamda1*np.exp(-lamda1*x)
f2 = lamda2*np.exp(-lamda2*x)
# add two independent exponential PDFs
f_sum = lamda1*lamda2/(lamda1-lamda2)*(np.exp(-lamda2*x)-np.exp(-lamda1*x))
```

In [10]:

```
# plot the lines of the 3 PDFs
plt.plot(x, f1, color="r", linewidth=1.25, label="f1")
plt.plot(x, f2, color="g", linewidth=1.25, label="f2")
plt.plot(x, f_sum, color="b", linewidth=1.25, label="f1+f2")
plt.legend()
plt.show()
```

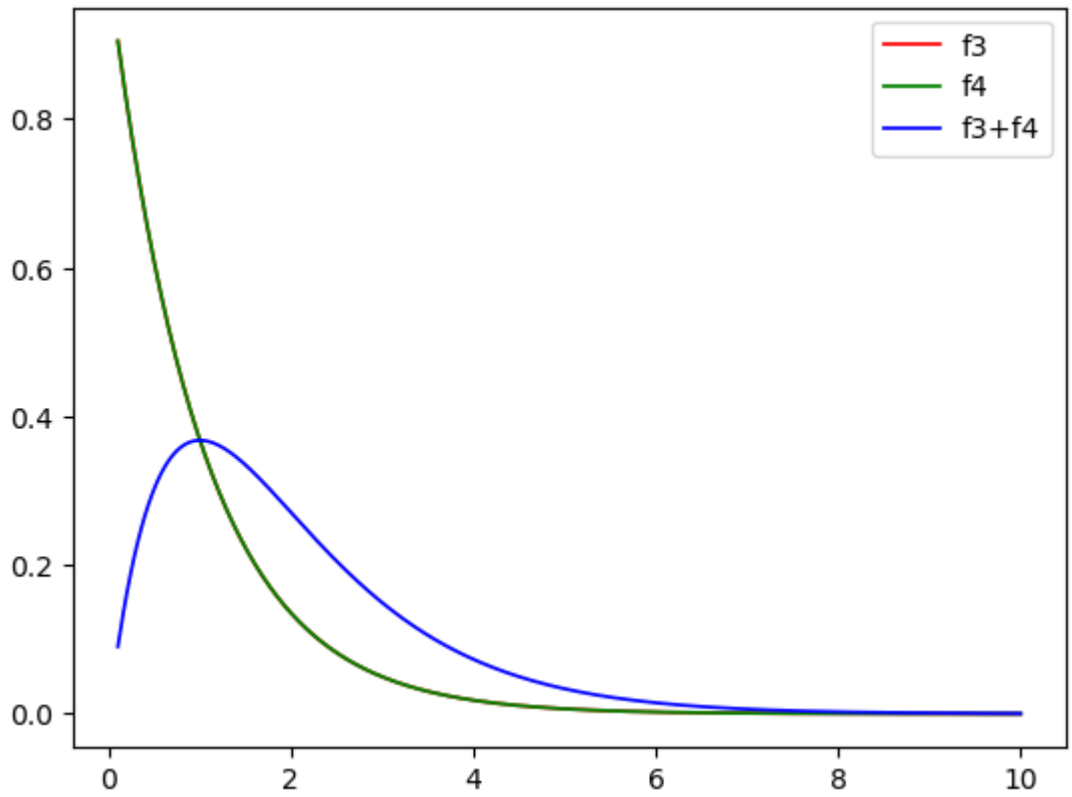


In [11]:

```
# if lamda1 == lamda2

lamda3 = 1
# get y axis value from the fomula F(x,lamda) = lamda*np.exp(-lamda/x)
f3 = lamda1*np.exp(-lamda3*x)
f4 = lamda1*np.exp(-lamda3*x)
# add two exponential PDFs with same lamda
f_sum2 = (lamda3**2)*x*np.exp(-lamda3*x)

# plot the lines of the 3 PDFs
plt.plot(x, f3, color="r", linewidth=1.25, label="f3")
plt.plot(x, f3, color="g", linewidth=1.25, label="f4")
plt.plot(x, f_sum2, color="b", linewidth=1.25, label="f3+f4")
plt.legend()
plt.show()
```



In [ ]:

```

```