Predict:

Use our ANN model to predict if the customer with the following informations will leave the bank:

- Geography: France
- Credit Score: 600
- Gender: Male
- Age: 40 years old
- Tenure: 3 years
- Balance: 60000
- Number of Products: 2
- Does this customer have a credit card ? Yes
- Is this customer an Active Member: Yes
- Estimated Salary: 50000
- So should we say goodbye to that customer ?

In [1]:
```
# from google.colab import drive
# drive.mount("/content/gdrive", force_remount=True)
```

In [2]:
```
# %cd '/content/gdrive/My Drive/LDS8_DeepLearning/Practice/Chapter3/'
```

In [3]:
```
import warnings
warnings.filterwarnings('ignore')
```

In [4]:
```
# # load the model from disk
# Returns a compiled model identical to the previous one
from tensorflow.keras.models import load_model
model = load_model('ANN_model.h5')
```

In [5]:
```
import pickle
import numpy as np
scalerfile = 'sc.sav'

file = open(scalerfile,'rb')
sc = pickle.load(file)

new_pred_1 = model.predict(sc.transform(np.array([[0, 0, 600, 1, 40, 3, 60000,
                                                   2, 1, 1, 50000]])))
```

In [6]:
```
new_pred_1  = new_pred_1  > 0.5
new_pred_1
```

Out[6]:
```
array([[False]])
```

In [7]:
```
from tensorflow.keras.utils import plot_model
from IPython.display import Image
```

In [8]:
```
plot_model(model, to_file='model.png', show_shapes=True)
Image(filename='model.png')
```

```
('You must install pydot (`pip install pydot`) and install graphviz (see instru
ctions at https://graphviz.gitlab.io/download/) (https://graphviz.gitlab.io/dow
nload/)) ', 'for plot_model/model_to_dot to work.')
```

Out[8]: