In [1]:

```
from glob import glob
import pandas as pd
import matplotlib.pyplot as plt

filepath = r"C:\\Users\\Pujachouhan\\OneDrive\\Desktop\\Activity Recognition from Single Chest-Mou
nted Accelerometer\\"
filesDir = glob(filepath + "/*.csv")
final_acc = pd.DataFrame()
```

In [2]:

```
#Reading all the files at once
pID = 0
for pID, filename in enumerate(filesDir):
    acc = pd.read_csv(filename, index_col = None, header=None)
    acc['User ID'] = pID + 1
    final_acc = final_acc.append(acc)

#Keeping only the required variables
del final_acc[0]
final_acc.columns = ['X-acceleration', 'Y-acceleration', 'Z-acceleration', 'Activity ID', 'User
ID']
```

In [3]:

```
#Basic information about the dataset
print("Dataser Info: ")
print(final_acc.info())
print("Dataset Description: ")
print(final_acc.iloc[:, 0:3].describe())
```

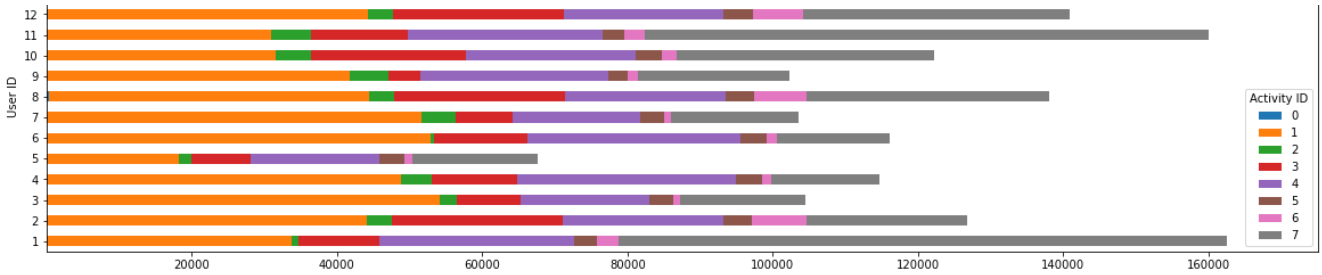
```
Dataser Info:
<class 'pandas.core.frame.DataFrame'>
Int64Index: 1926896 entries, 0 to 166740
Data columns (total 5 columns):
 #   Column          Dtype
---  ------          -----
 0   X-acceleration  int64
 1   Y-acceleration  int64
 2   Z-acceleration  int64
 3   Activity ID     int64
 4   User ID         int64
dtypes: int64(5)
memory usage: 88.2 MB
None
Dataset Description:
       X-acceleration  Y-acceleration  Z-acceleration
count    1.926896e+06    1.926896e+06    1.926896e+06
mean     1.987652e+03    2.382523e+03    1.970596e+03
std      1.113578e+02    1.003151e+02    9.445893e+01
min      2.820000e+02    2.000000e+00    1.000000e+00
25%      1.904000e+03    2.337000e+03    1.918000e+03
50%      1.992000e+03    2.367000e+03    1.988000e+03
75%      2.076000e+03    2.413000e+03    2.032000e+03
max      3.828000e+03    4.095000e+03    4.095000e+03
```

In [4]:

```
test = pd.crosstab(index = final_acc.iloc[:,-1], columns = final_acc.iloc[:,-2])
test.plot(kind = 'barh', stacked = True, figsize = (20,5))
```

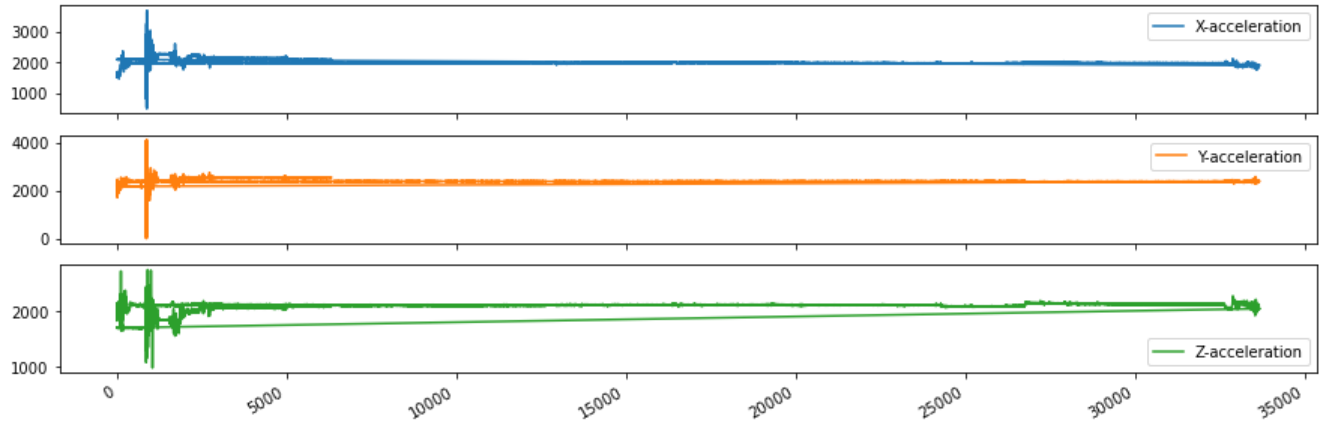
Out[4]:

```
<AxesSubplot:ylabel='User ID'>
```



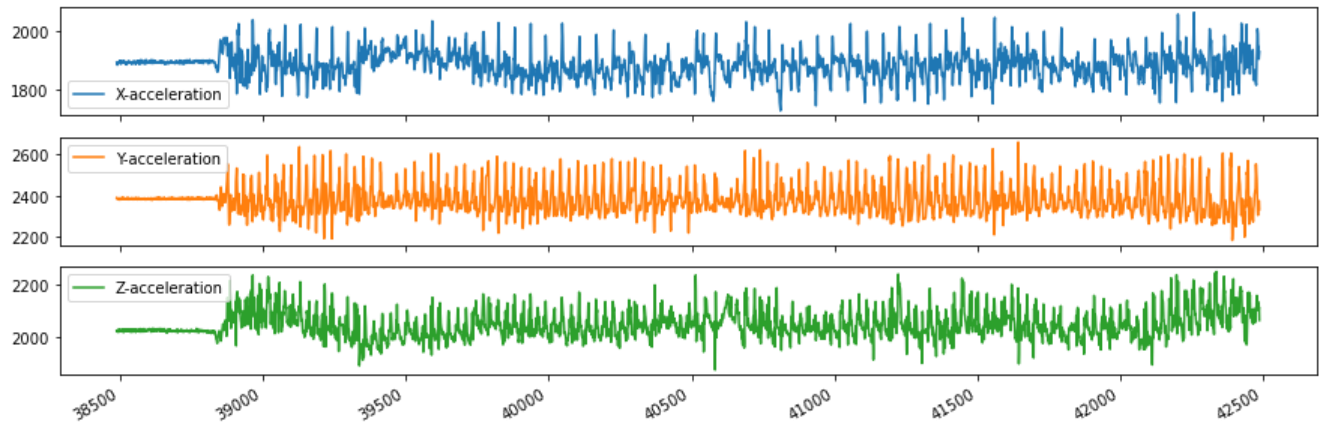
In [5]:

```
#Activity ID 1- Working at computers
expOne = final_acc[final_acc['Activity ID'] == 1]
expOne = expOne[['X-acceleration', 'Y-acceleration', 'Z-acceleration']]
expOne = expOne[:40000]
expOne = expOne.plot(subplots = True, figsize = (15, 5))
```



In [6]:

```
#Activity ID 4- Walking
expFour = final_acc[final_acc["Activity ID"]==4]
expFour = expFour[['X-acceleration', 'Y-acceleration', 'Z-acceleration']]
expFour = expFour[:4000]
expFour = expFour.plot(subplots = True, figsize = (15, 5))
```



In [ ]: