

New York University
School of Continuing and Professional Studies
Division of Programs in Information Technology

Introduction to Python
Session 7 Homework Solutions

7.1 Convert custom sort function into a lambda.

```
def by_openclose(line):
    items = line.split(',')
    open = items[2]
    close = items[5]
    diff = float(open) - float(close)
    return diff

lambda line: float(line.split(',')[2]) - float(line.split(',')[5])
```

7.2 List comprehension to get student ids

```
ids = [ line.split(':')[0] for line in open('../python_data/student_db.txt').readlines()[1:] ]
print(ids)
```

7.3 Dict of lists: (stock ticker -> list of closing prices)

```
def max_less_min(ticker):
    return max(tickpri[ticker]) - min(tickpri[ticker])

tickpri = {}

lines = open('../python_data/stock_prices.csv').readlines()
wlines = lines[1:]

for line in wlines:
    items = line.split(',')
    ticker = items[0]
    close = items[5]

    if ticker not in tickpri:
        tickpri[ticker] = []
    tickpri[ticker].append(float(close))

for ticker in sorted(tickpri, key=max_less_min, reverse=True):
    print('{}: {} difference ({}-{}).format(ticker, round(max_less_min(ticker), 2), max(tickpri[ticker]), min(tickpri[ticker]))
```
