

Q5: This code can be expanded to like this.

```
for (j=1 to n) {  
  for (i=1 to j) {  
    funds[j] = funds[j-i] + price[i] + buy[j]  
  }  
}
```

$$T(n) = \sum_{j=1}^n \sum_{i=1}^j c j^2$$

$$= \sum_{j=1}^n c j^3$$

$$= c \cdot \sum_{j=1}^n j^3$$

$$\cancel{= O(n^4)} \leq c \cdot n \cdot n^3 = c \cdot n^4 = O(n^4)$$