Assignment: 2

ENSF 594
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26/7/2020

Q1) Money Change:

Greedy choice is to take all the 10s first, then take all the 5s then all the 1s

```
Enter single integer m between 1 and 10^3
23231
Enter a valid number
Enter single integer m between 1 and 10^3
223
m is 223
10 coin: 22
5 coin: 0
1 coin: 3
```

Q2) Max Value of the Loot:

Efficient algorithm is to get value/weight ratio of all the elements, then sort them in descending order. Fill the bag with the first ratio's weight, then move to second highest ratio and use all the weight of this ratio, keep doing this until the bag has reached max capacity.

```
Enter number of elements between 1 and 10^3
3
Enter max capacity between 0 and 2.10^6
50
Enter value for element 1
60
Enter weight for element 1
20
Enter value for element 2
100
Enter weight for element 2
50
Enter value for element 3
120
Enter weight for element 3
30
Max Sum is 180.0000
30 of the element that has a value of 120
20 of the element that has a value of 60
```

Q3) Max Advertisement Revenue

Sort both arrays (a and b arrays), then loop through the array and multiply the indexes, this will be the max ad revenue.