Lab 11 Answers:

1)
```
def getInput():
        n = input("Enter a number greater than 0:  ")
        if n > 0:
            print("Thank you.")
        else:
            getInput()
```

2)
```
def countdown(n):
    while n >= 0:
         print(n)
         n = n - 1
    print("End of program.")
```

3b)
```
print(twoDnumList[2][3])
```

3c)
```
for row in range(len(TwoDnumList)):
    for col in range(len(TwoDnumList[row])):
        print(TwoDnumList[row][col])
```

3d)
```
for row in range(len(TwoDnumList)):

        for col in range(len(TwoDnumList[row])):
            print(TwoDnumList[row][col], end="\t")
        print()
```

3e)
```
def byrows():
    twodlist = []
    for row in range(4):
        twodlist.append([])
        for col in range(4):
            twodlist[row].append(row)
    print(twodlist)
```

3f)
```
def bycols():
    twodlist = []
    for row in range(4):
        twodlist.append([])
        for col in range(4):
            twodlist[row].append(col)
    print(twodlist)
```

3g)

```
    def multiples():
        #creates a 4x4 array of entries, each with value row*col
        twodlist = []
        for row in range(4):
            twodlist.append([])
            for col in range(4):
                twodlist[row].append(row*col)
        print(twodlist)
```

3h)

```
    def original():
        TwoDnumList = []
        for row in range(4):
            TwoDnumList.append([])
            for col in range(4):
                TwoDnumList[row].append((row*4+col+1)
        print(TwoDnumList)
```

POSSIBLE Bonus A solution:

```
def monty():
    from random import randrange

    #Case 1: Player doesn't change their pick
    #Just count how many times player wins regardless of opened
  door/goat
    count = 0
    for i in range(1000): #Simulate 1000 games
        doors = [0,0,0]          #Start with all goats (zeros)
        doors[randrange(0,3)] = 1 # 1 is a car
        player_pick = randrange(0,3)
        #Check if player won
        if doors[player_pick] == 1:
            count+=1
    print("Case 1: Player won {0:2%} of the
  games.".format(count/1000))

    #Case 2: Player changes their pick
    count = 0
    for i in range(1000): #Simulate 1000 games
        doors = [0,0,0]          #Start with all goats (zeros)
        doors[randrange(0,3)] = 1 # 1 is a car
        player_pick = randrange(0,3)
        #Reveal one door with goat
```

```
      if doors[0]==0 and player_pick != 0:
          revealed = 0
      elif doors[1]==0 and player_pick != 1:
          revealed = 1
      else:
          revealed = 2
      #Player changes their pick to remaining door (other than
revealed)
      if revealed != 0 and player_pick!=0:
          new_pick = 0
      elif revealed != 1 and player_pick!=1:
          new_pick = 1
      else:
          new_pick = 2



      #Check if player won
      if doors[new_pick] == 1:
          count+=1
  print("Case 2: Player won {0:2%} of the
games.".format(count/1000))
```