Assignment 1

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1 Introduction

2 Part 1:

Nicole Avila navila I am using Python 3.7 By the way, sorry for not sending this in the right folder. I thought this part went into the readmetxt file and that the last two were supposed to be in a doc

Part 1

1

```
def main ():
print(”Hello World”)
name = input( ”What’s your name?”)
print(”Hello,”, name)
color = input(”What’s your favorite color?”)
stress = input(”Are you stressed out? If so type stressed out”)
if stress == ”stressed out”:
print( ”You like the color ”, color, ” and your are currently”, stress, ”You should consider therapy”)
else:
print(”You like the color ”, color, ” and your are currently”, stress, ”.That’s good!”)
```

2: Convert Celsius to Farenheit

```
def celsius():
celsius = eval(input(”What is the temperature in celsius ”))
Farenheit = 9 / 5 * celsius + 32 for x in range (5):
```

print(Farenheit)

3 Unit Conversion
def convert():
print(”Hello! Welcome to Conversion! A simple app that converts minutes to hours! Simply type in the amount of minutes and I’ll tell you how many hours that is. ”)

minutes = int(input(”Minutes: ”))
hours = int(input(minutes/60))
print (”Hours: ”, hours)

4 Slope.. but really average program to sum a series of numbers entered by the user. basically use an if and tell whether its true or not
def slope():
print (”Hello! This is a average conversion app. ”)
total = int(input(”How many numbers do you want to average ”)) numbers = 0
if True:
for x in range (total):

number = int(input(”Type next number: ”))
numbers+= number

average = numbers/total
print(average)
else:
print(”type a real number ”)

5 fibonacci
make a position marker that will hold the person’s position they are looking for
position= int(input(”Welcome! Which position are you looking for? ”))
if position == 1 or position == 2 :
print (1)
first = 1
second = 2
else:

first = 1
second = 1
given that the position equals 1 or 2 a for loop will run in the range offers and second
for i in range(position-2):
a temporary value will hold the position of second
temp = second
second = first + second
first =temp
print (second)

PART TWO!

Figure out the amount of coins you can give out to the customer while ensure that it's the least number of coins possible.
def coin$_change(cents):$
$Thisifstatementwillchecktoseewhetherthenumberowedisnotnegative.Ifit'snegativeorequalto$

if cents ¡=0:
print (error, cents must be positive"
else:
If the number of cents is bigger than 0 than it will run the else statement. quarter = cents// 25 basically means that it'll ask whether the cents // 25 is a whole number. If it is then the program will run and give an output of quarters. For the rest I will just use a modulus and then divide the outcome by 10 to tell whether it is a whole number or not.

quarter = cents // 25 dime = (cents nickel = cents penny = cents
print "The number of coins for" , cents. "cents are:"
print "quarters:", quarter
print "Dimes:", dime
print "nickels:", nickel
print "Pennies:", penny

3 Part 4: What is a greedy algorithm?

I used Python 3.7 1) A greedy algorithm is a simple algorithm that is used in optimization problems. It attempts to find the overall optimal way to solve the entire problem. It does not consider the consequences.

2 You could solve the problem by implementing a while loop so for instance, to find the amount of quarters you would write the following:

```
owed = float(input(”How much change is owed? ”))
def coins():
owed = float(input(”How much change is owed? ”))
quarter = 0
while owed ¿= .25:
owed -=.25
quarter +=1
print (”Your change:”, quarter, ”quarters”)
```

3 Example would be Kruskal's algorithm, which finds a minimum spanning tree for a connected weighted graph that increases the cost of arcs at each step. Another example would be trying to fit a certain amount of people within a car. You would have to find a way to get big and small people to fit.