**Topic: Dictionaries  
CS 150 Introduction To CS  
Python – Worksheet 10  
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Determine the output of the print function where the dictionary gives the populations of the four US states in millions.

statePop = {'IA':3.1, 'MN':5.5, 'WI':5.8, 'MO':6.1}

1. print(statePop['WI']) **5.8**
2. print(statePop.get('MO', 'absent')) **6.1**

1. print(max(statePop)) **WI**
2. statePop.update({'IA':3.3, 'MO':6.2})

print(statePop['MO']) **6.2**

1. total = 0

20.80

for item in statePop.values():

total += item

print('{0:.2f}'.format(total))

IA 3.3

MN 5.5

MO 6.2

WI 5.8

1. for x in sorted(statePop):

print(x, statePop[x])

1. Rewrite the code below using a dictionary instead of an if statement.

def determineRank(years):

if years == 1:

return 'Freshman'

if years == 2:

return 'Sophomore'

if years == 3:

return 'Junior'

else:

return 'Senior'

**Use the dictionary topHitters below for questions 8 – 11.**

def determineRank(years):

yearDic = {1 : 'Freshman', 2 : 'Sophomore', 3 : 'Junior'}

return yearDic.pop(years, 'Senior')

topHitters = {"Gehrig":{"atBats":8061, "hits":2721},

"Ruth":{"atBats":8399, "hits":2873},

"Williams":{"atBats":7706, "hits":2654}}

1. Write a function displayBattingAverage(topHitters) to produce batting averages of the three baseball players, as shown.

def displayBattingAverage(topHitters):

for hitter, values in topHitters.items():

battingAvg = values['hits']/values['atBats']

print("{:<10}".format(hitter), round(battingAvg, 3))

Gehrig 0.338

Ruth 0.342

Williams 0.344

1. What output is displayed by the following code?

{'Ruth': {'hits': 2873, 'atBats': 8399}}

del topHitters[max(topHitters)]

del topHitters[min(topHitters)]

print(topHitters)

1. Write a function displayAvgNumberOfHits(topHitters) to produce the average number of hits by the three players, as shown. Hint: convert hits to a list

def displayAvgNumberOfHits(topHitters):

hits = [values['hits'] for hitter, values in topHitters.items()]

avg = sum(hits) / len(hits)

print("The average number of hits:", round(avg, 1))

The average number of hits: 2749.3

1. Write a function mostHits(topHitters) to produce the most hits by any of the three players, as shown. The code should use the max function. Hint: convert hits to a list.

The most hits by one player: 2873

def mostHits(topHitters):

hits = [values['hits'] for hitter, values in topHitters.items()]

maxHits = max(hits)

print("The most hits by one player: ", maxHits)