

# CS 160

# CS Orientation

Functions and Lists

```
1 def main():
2     num=getEmployees() #can call getEmployees and return to local variable
3     print(num);
4     print(id(num)) #print id of local num
5     #num+=1 #num=num+1
6     #print(id(num)) #print id of local num
7     calculate(num)
8     print(num); #value of num does not change after function call
9     print(id(num)) #print id of local num
10    #calculate(getEmployees()) #can pass number returned directly to calculate
11
12 def getEmployees():
13     employeeNum = int(input("what is the number of employees: "))
14     #calculate(employeeNum) #maybe not good to have getEmployees() also calculate
15     return employeeNum
16
17 def calculate(num):
18     print(id(num)) #print id of local num
19     num=3
20     print(id(num)) #print id of local num
21     for x in range(num):
22         num1 = float(input("for employee number " +str( x+1)+" how much do they get payed: "))
23         num2 = float(input("for employee number " +str(x+1)+" what is there hours: "))
24         print("the pay for employee number "+str(x+1)+" is " +str(num2*num1))
25
26 main()
27
```

-- INSERT --

19,9  
6 4

All  
All

# More practice loops/functions...

- Write a function with a nested loop that displays x rows of '#' with y '#'s on each row.
- Write a function that asks the user for the speed of a vehicle and how many hours it has been travelling. Write another function to print out how far the vehicle has gone each hour. Ask the user if they want to perform another calculation.



2. ENGR



Re-attach



Fullscreen



Stay on top



Duplicate



Close

```
1 def get_speed():
2     return int(input("Enter speed: "))
3
4 def get_hours():
5     return int(input("Enter hours: "))
6
7 def travel_distance(speed, hours):
8     #for h in range(hours):
9     #    print((h+1)*speed)
10    for h in range(1, hours+1):
11        print(h*speed)
12
13 def main():
14     travel_distance(get_speed(), get_hours())
15
16 main()
```

4 fewer lines

-- INSERT --

14,4

16,1

All

Bot

# What if we want to store gross\_pay information?

- What is a list vs. array?
- How do we make a list in python?



Re-attach



Fullscreen



Stay on top



Duplicate



Close

```
1 def get_speed():
2     return int(input("Enter speed: "))
3
4 def get_hours():
5     return int(input("Enter hours: "))
6
7 #we can pass a list and change it in a function
8 def get_travel_info(info):
9     info.append(int(input("Enter speed: ")))
10    info.append(int(input("Enter hours: ")))
11
12 def travel_distance(speed, hours):
13     #for h in range(hours):
14     #    print((h+1)*speed)
15     for h in range(1, hours+1):
16         print(h*speed)
17
18 def main():
19     travel_info=[] #create a list
20     get_travel_info(travel_info) #we can change a list in a function
21     travel_distance(travel_info[0], travel_info[1]) #pass list elements
22     #travel_distance(get_speed(), get_hours())
23
24 main()
```