

DIY Assignments for Python Training (Day 1 and Day 2)

1) Create a program that takes an array of block height and a jumper's jump height, and determine whether or not the jumper can clear all the blocks

2) Write a Python program that takes a number and returns a list of all its factors.

3) Write a Python program to reverse a list

3) Write a Python program that goes through the array, incrementing (+1) for each odd number and decrementing (-1) for each even number.

4) Write a python program that return the difference between first and last items in a list?

```
a = [110,140,170,200,230,260,290,320,350,380,410,440,470,500]
```

4) The packing robot is running the `getContainer()` function to retrieve the container of a product. But something is not right

write a Python program that make the robot perform this packing job:

```
get_container("Bread") → "bag"
```

```
get_container("Beer") → "bottle"
```

```
get_container("Candy") → "plastic"
```

```
get_container("Cheese") → 'None'
```

5) Create a Python program that takes a dictionary argument sizes (contains width, length, height keys) and returns the volume of the box.

6) Write a Python program that creates a dictionary with each (key, value) pair being the (lower case, upper case) versions of a letter.

7) Write a python program that return the sum of the absolute value of each element of a list :

```
x = [10,20,30,40,50]
```

8) Create a Python program to sort a list in ascending order which starting from the left of the list and,compare numbers by pairs. If the first pair is ordered [smaller number, larger number], and so on.

If the first pair is ordered [larger number, smaller number], swap the two integers before moving on to the next pair.

then repeat this process again until you get to the end of the list.

Then, return to the beginning of the list and repeats this process again until the entire list is sorted.

If the unsorted list is: [5,100,20,15,150,80,210,30], what is the number of swaps you will need?

9) Create a Python program that takes a number and returns a list with the digits of the number in reverse order.

10) Write a Python program that remove the extra spaces from the following string:

'I am learning Python object oriented programming '

11) Write a python program that reverse the case of string : "Hello World. Very Good Morning"

12) Replace every occurrence of the character "s" with the character "x"

phrase = "Somebody said something to Sara."

13) In one of Famous Coffee Mixer shops chain every 6 days with every day one cup of coffee customer buys, customer gets a 7th cup free in the weekend (Sunday)!

Create a Python program that takes numbers of cups bought and return the total number of cups that customer would get and

also the number of free cups for one month(for both 30 days & 31 days):