```
## INTRODUCING LIST
bicycles =["trek" , "cannondale" , "redline" , "specialized"]
print(bicycles)

bicycles =["trek" , "cannondale" , "redline" , "specialized"]
print(bicycles[0])

bicycles =["trek" , "cannondale" , "redline" , "specialized"]
print(bicycles[0].title())

bicycles =["trek" , "cannondale" , "redline" , "specialized"]
print(bicycles[1] , bicycles[3])

bicycles =["trek" , "cannondale" , "redline" , "specialized"]
print(bicycles[-1])

bicycles =["trek" , "cannondale" , "redline" , "specialized"]
message = "My first bicycle was a " + bicycles[0].title()
print(message)

## TRY YOURSELF

names = ["hasnain" , "ibrahim" , "rauhan"]
print (names[0] , names[1] , names[2])

print ("hello " + names[0] + "how are u ?")
print ("hello " + names[1] + "how are u ?")
print ("hello " + names[2] + "how are u ?")

##----------x----------


motorcycles = ['honda','yamaha','suzuki']
print (motorcycles)
motorcycles[1] = 'ducati'
print(motorcycles)

motorcycles.append('yamaha')
print(motorcycles)



motorcycles = ['honda','yamaha','suzuki']
motorcycles.insert(2 , "bmw")
print(motorcycles)

motorcycles = ['honda','yamaha','suzuki']
del motorcycles[0]
print(motorcycles)

motorcycles = ['honda','yamaha','suzuki']
popped_motorcycles = motorcycles.pop()
print(motorcycles)
print(popped_motorcycles)


motorcycles = ['honda','yamaha','suzuki']
```

```
motorcycles.remove("yamaha")
print(motorcycles)

##----------------------------------------x----------------------------------------
# TRY YOURSELVES

guest_list = ["my father" , "my grandfather" , "my great grandfather" , "my great great grandfather"]
print ("this is an invitation of dinner for " + guest_list[0])
print ("this is an invitation of dinner for " + guest_list[1])
print ("this is an invitation of dinner for " + guest_list[2])
print ("this is an invitation of dinner for " + guest_list[3])

print("this message is to notify that"+ guest_list[3] + "can't make it.")
guest_list[3] = "my mamu"
print(guest_list)
print ("this is an new invitation of dinner for " + guest_list[0])
print ("this is an new invitation of dinner for " + guest_list[1])
print ("this is an new invitation of dinner for " + guest_list[2])
print ("this is an new invitation of dinner for " + guest_list[3])


print()
#-------------------------------------------------------------------------------------------------------------------
## Sorting in list
cars = ['bmw', 'audi', 'toyota', 'subaru']
cars.sort()
print(cars)

cars = ['bmw', 'audi', 'toyota', 'subaru']
cars.sort(reverse=True)
print(cars)

cars = ['bmw', 'audi', 'toyota', 'subaru']
print("Here is the original list:")
print(cars)
print("\nHere is the sorted list:")
print(sorted(cars))
print("\nHere is the original list again:")
print(cars)


cars = ['bmw', 'audi', 'toyota', 'subaru']
print(cars)
cars.reverse()
print(cars)


#finding length of list
cars = ['bmw', 'audi', 'toyota', 'subaru']
len(cars)


motorcycles = ['honda', 'yamaha', 'suzuki']
print(motorcycles[-1])
#-------------------------------------------------------------------------------------------------------------------
#CHAPTER 4
```

```
## WORKING WITH LISTS

magicians = ['alice', 'david', 'carolina']
for magician in magicians:
    print(magician)

magicians = ['alice', 'david', 'carolina']
for magician in magicians:
        print(magician.title() + ", that was a great trick!")

magicians = ['alice', 'david', 'carolina']
for magician in magicians:
      print(magician.title() + ", that was a great trick!")
      print("I can't wait to see your next trick, " + magician.title() + ".\n")

magicians = ['alice', 'david', 'carolina']
for magician in magicians:
      print(magician.title() + ", that was a great trick!")
      print("I can't wait to see your next trick, " + magician.title() + ".\n")
print("Thank you, everyone. That was a great magic show!")

magicians = ['alice', 'david', 'carolina']
for magician in magicians:
            print(magician.title() + ", that was a great trick!")
print("I can't wait to see your next trick, " + magician.title() + ".\n")

## MAKING NUMERICAL LIST

for value in range(1,5):
    print(value)

for value in range(1,6):
    print(value)

## USING RANGE TO MAKE A LIST

numbers = list(range(1,6))
print(numbers)

even_numbers = list(range(2,11,2))
print(even_numbers)

squares = []
for value in range(1,11):
    square = value**2
    squares.append(square)
print(squares)

squares = []
for value in range(1,11):
      squares.append(value**2)
print(squares)

## STATISTCS WITH LIST OF NUMBERS

digits = [1, 2, 3, 4, 5, 6, 7, 8, 9, 0]
```

```
min(digits)
max(digits)
sum(digits)

##LIST COMPREHENSION

squares = [value**2 for value in range(1,11)]
print(squares)

## SLICING A LIST

players = ['charles', 'martina', 'michael', 'florence', 'eli']
print(players[0:3])

players = ['charles', 'martina', 'michael', 'florence', 'eli']
print(players[1:4])

players = ['charles', 'martina', 'michael', 'florence', 'eli']
print(players[:4])

players = ['charles', 'martina', 'michael', 'florence', 'eli']
print(players[2:])

players = ['charles', 'martina', 'michael', 'florence', 'eli']
print(players[-3:])

## LOOPING THROUGH A SLICE

players = ['charles', 'martina', 'michael', 'florence', 'eli']
print("Here are the first three players on my team:")
      for player in players[:3]:
print(player.title())

## COPYING A LIST

my_foods = ['pizza', 'falafel', 'carrot cake']
friend_foods = my_foods[:]
print("My favorite foods are:")
print(my_foods)
print("\nMy friend's favorite foods are:")
print(friend_foods)


## TUPLES

dimensions = (200, 50)
print(dimensions[0])
print(dimensions[1])

## USING LOOPS THROUGH TUPLES

dimensions = (200, 50)
for dimension in dimensions:
      print(dimension)


dimensions = (200, 50)
```

```
print("Original dimensions:")
for dimension in dimensions:
        print(dimension)


dimensions = (400, 100)
print("\nModified dimensions:")
for dimension in dimensions:
        print(dimension)
#-------------------------------------------------------------------------------------------------------------------------------------------

# CHAPTER 5
## IF STATEMENTS
```