```
count = 0
total = 0

while True:
  integers = input('enter an integer (or type Done for exit):')
  if integers == 'Done':
    print('Exit')
    break

  try:
    integers = int(integers)
    count += 1
    total += integers
    avg = total/count
  except:
    print('Inavild entry, please enter valid entry')
print(f"COUNT: {count}")
print(f"TOTAL: {total}")
print(f"AVERAGE: {avg}")
```

```
enter an integer (or type Done for exit):1
enter an integer (or type Done for exit):-1
enter an integer (or type Done for exit):675
enter an integer (or type Done for exit):99
enter an integer (or type Done for exit):0.9
Inavild entry, please enter valid entry
enter an integer (or type Done for exit):HELLO
Inavild entry, please enter valid entry
enter an integer (or type Done for exit):45
enter an integer (or type Done for exit):Done
Exit
COUNT: 5
TOTAL: 819
AVERAGE: 163.8
```

```
num = [1,2,3,4,5,6,7,8,9,0,1,2,3,4,5]
print(len(num))
```

```
15
```

```
sum(num)
```

```
60
```

```
min(num)
```

```
0
```

```
max(num)
```

```
9
```

```
num.reverse()
print(num)
```

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

```
8 in num
```

```
True
```

```
num.pop(1)
```

```
4
```

```
print(num)
```

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

```
num =[2,3,4,5,6,7,8,9,10,1,3,67,8]
```

```
list(set(num))
```

```
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 67]
```

```
num1 = [5,6,6,7]
num2 = [5,6,3,9]
print(num1+num2)
```

```
[5, 6, 6, 7, 5, 6, 3, 9]
```

```
num1.extend(num2)
print(num1)
```

```
[5, 6, 6, 7, 5, 6, 3, 9]
```

```
num[:8]
```

```
[2, 3, 4, 5, 6, 7, 8, 9]
```

```
n= 10
list1 = [ i for i in range(1, n+1)]
print(list1)
```

```
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

```
t = (1,2,3,4,5,0.5,'teju')
type(t)
```

```
tuple
```

```
t = (1,2,3,4,5,6,7,8)
```

```
t.index(2)
```

```
1
```

```
t[1:6]
```

```
(2, 3, 4, 5, 6)
```

```
t.count(6)
```

```
1
```

```
list(t)
```

```
[1, 2, 3, 4, 5, 6, 7, 8]
```

```
len(t)
```

```
8
```

```
min(t)
```

```
1
```

```
max(t)
```

```
8
```

```
c = (3,4,5,6)
d = (4,5,6,7)
print(c + d)
```

```
(3, 4, 5, 6, 4, 5, 6, 7)
```

```
t1 = (98,76,3,2,-1,-5,0.55)
tuple(sorted(t1))
```

```
(-5, -1, 0.55, 2, 3, 76, 98)
```

students details

```
students = [
    ('srusti','1','CSE','H','A+'),
    ('teju','2','CSE','I','O+'),
    ('pavan','3','CSE','E','AB+'),
    ('vinay','4','CSE','L','B+'),
    ('AB','5','CSE','S','AB-')
]
def student_details(students):
    for i in students:
        name,roll_no,branch,section,blood_group = i
        print('student_details\n')
        print(f"name: {name}")
        print(f"roll_no: {roll_no}")
        print(f"branch: {branch}")
        print(f"section: {section}")
```

```
        print(f"blood_group: {blood_group}\n")

student_details(students)
```

```
student_details

name: srusti
roll_no: 1
branch: CSE
section: H
blood_group: A+

student_details

name: teju
roll_no: 2
branch: CSE
section: I
blood_group: O+

student_details

name: pavan
roll_no: 3
branch: CSE
section: E
blood_group: AB+

student_details

name: vinay
roll_no: 4
branch: CSE
section: L
blood_group: B+

student_details

name: AB
roll_no: 5
branch: CSE
section: S
blood_group: AB-
```

```
students_details = []
student_num = int(input('enter number of students:'))
for i in range(student_num):
  name_st = input(f'enter name:{i+1}')
  roll_num = input(f'enter roll_no:{i+1}')
  branch_st = input(f'enter branch:{i+1}')
```

```
  section_st = input(f'enter section:{i+1}')
  blood_gp = input(f'enter blood_group:{i+1}')

students_details.append((name_st,roll_num,branch_st,section_st,blood_g
p))
print(students_details)



def student_details(students):
    for student_details in students:
        name,roll_no,branch,section,blood_group = student_details
        print('student_details\n')
        print(f"name: {name_st}")
        print(f"roll_no: {roll_num}")
        print(f"branch: {branch_st}")
        print(f"section: {section_st}")
        print(f"blood_group: {blood_gp}\n")

student_details(students)

enter number of students:2
enter name:1teju
enter roll_no:12
enter branch:1r
enter section:14
enter blood_group:1tr
enter name:24
enter roll_no:25
enter branch:26
enter section:27
enter blood_group:28
[('teju', '2', 'r', '4', 'tr'), ('4', '5', '6', '7', '8')]
student_details

name: 4
roll_no: 5
branch: 6
section: 7
blood_group: 8

student_details

name: 4
roll_no: 5
branch: 6
section: 7
blood_group: 8

student_details
```

```
name: 4
roll_no: 5
branch: 6
section: 7
blood_group: 8

student_details

name: 4
roll_no: 5
branch: 6
section: 7
blood_group: 8

student_details

name: 4
roll_no: 5
branch: 6
section: 7
blood_group: 8
```

LIBRARY DETAILS

```
book_details = []
book_num = int(input('enter number of books:'))
for i in range(book_num):
  book_name = input(f'enter book_name:{i+1}')
  book_id = input(f'enter book_id:{i+1}')
  book_author = input(f'enter book_author:{i+1}')
  book_publisher = input(f'enter book_publisher:{i+1}')
  book_price = input(f'enter book_price:{i+1}')

book_details.append((book_name,book_id,book_author,book_publisher,book
_price))
print(book_details)

def lib_book_details(book_details):
  for i in book_details:
    book_name,book_id,book_author,book_publisher,book_price = i
    print('book_details\n')
    print(f"book_name: {book_name}")
    print(f"book_id: {book_id}")
    print(f"book_author: {book_author}")
    print(f"book_publisher: {book_publisher}")
    print(f"book_price: {book_price}\n")

lib_book_details(book_details)
```

```
enter number of books:1
enter book_name:1maths
enter book_id:178
enter book_author:1ayesha
enter book_publisher:1mallik
enter book_price:14564
[('maths', '78', 'ayesha', 'mallik', '4564')]
book_details

book_name: maths
book_id: 78
book_author: ayesha
book_publisher: mallik
book_price: 4564


o

a = {
    'name':'teju',
    'age':20,
    'gender':'female'
}
print(a)

{'name': 'teju', 'age': 20, 'gender': 'female'}

a.keys()

dict_keys(['name', 'age', 'gender'])

a.values()

dict_values(['teju', 20, 'female', 'chitradruga'])

a['age'] = 20
a

{'name': 'teju', 'age': 20, 'gender': 'female'}

a['village'] = 'chitradruga'
a

{'name': 'teju', 'age': 20, 'gender': 'female', 'village':
'chitradruga'}

len(a)

4

'gender'in a

True
```

```
for key,value in a.items():
  print(key,value)
```

```
name teju
age 20
gender female
village chitradruga
```

```
a1 = {
    'name':'teju',
    'age':20
}
a2 = {
    'gender':'female',
    'village':'chitradruga'
}
a1.update(a2)
print(a1)
```

```
{'name': 'teju', 'age': 20, 'gender': 'female', 'village':
'chitradruga'}
```

```
dict (sorted(a1.items()))
```

```
{'age': 20, 'gender': 'female', 'name': 'teju', 'village':
'chitradruga'}
```

```
print(a)
```

```
{'name': 'teju', 'age': 20, 'gender': 'female', 'village':
'chitradruga'}
```

todo list

```
works = []

def show_list():
  print('TO-DO LIST')
  print('1. add a works')
  print('2. view the works')
  print('3. mark the work as completed')
  print('4. remove the work from list')
  print('5. exit')

def add_work():
  work = input('enter a work to be done:')
  works.append({'work': work,'completed':False})
  print(f'{work} added to the list')

def list_works():
  if not works:
```

```
    print('no works in the list')
  else:
    print('list of works')
    for i,work in enumerate(works,start=1):
      status = 'completed' if work['completed'] else 'pending'
      print(f'{i}. {work["work"]} - {status}')

def mark_completed():
  list_works()
  work_index = int(input('enter  the work to mark as completed:')) -1
  if 0 <=  work_index < len(works):
    works[work_index]['completed'] = True
    print(f'{works[work_index]["work"]} marked as completed')
  else:
    print('invalid work index')

def remove_work():
  list_works()
  work_index = int(input('enter the work to remove:'))
  if 0 <= work_index < len(works):
    removed_work = works.pop(work_index)
    print(f' {removed_work["work"]} removed from the list')
  else:
    print('invalid work index')

def to_do_list():
  while True:
    show_list()
    choice = input('enter the choice create To-do (1,2,3,4,5):')
    if choice == '1':
      add_work()
    elif choice == '2':
      list_works()
    elif choice == '3':
      mark_completed()
    elif choice == '4':
      remove_work()
    elif choice == '5':
      print('Thanks for choosing app')
      break
    else:
      print('invalid choice')

to_do_list()


TO-DO LIST
1. add a works
2. view the works
3. mark the work as completed
```

```
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):1
enter a work to be done:ert
ert added to the list
TO-DO LIST
1. add a works
2. view the works
3. mark the work as completed
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):1
enter a work to be done:fgh
fgh added to the list
TO-DO LIST
1. add a works
2. view the works
3. mark the work as completed
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):1
enter a work to be done:cvb
cvb added to the list
TO-DO LIST
1. add a works
2. view the works
3. mark the work as completed
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):2
list of works
1. ert - pending
2. fgh - pending
3. cvb - pending
TO-DO LIST
1. add a works
2. view the works
3. mark the work as completed
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):3
list of works
1. ert - pending
2. fgh - pending
3. cvb - pending
enter  the work to mark as completed:2
fgh marked as completed
TO-DO LIST
1. add a works
```

```
2. view the works
3. mark the work as completed
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):4
list of works
1. ert - pending
2. fgh - completed
3. cvb - pending
enter the work to remove:2
 cvb removed from the list
TO-DO LIST
1. add a works
2. view the works
3. mark the work as completed
4. remove the work from list
5. exit
enter the choice create To-do (1,2,3,4,5):5
Thanks for choosing app
```