exercise -> 2

1. Write a Python program to find area of a triangle.

```
a=float(input('enter the first side value:'))
b=float(input('enter the second side value:'))
c=float(input('enter the third side value:'))
s=(a+b+c)/2
area=(s*(s-a)*(s-b)*(s-c))*0.5
print('the area of triangle is= 0.2%f ' %area)
```

Answer:

```
D:\>python exercise2.py
enter the first side value:20
enter the second side value:30
enter the third side value:20
the area of triangle is= 0.219687.500000
```

->second method:
```
base = float(input("Enter the base length of the triangle: "))
height = float(input("Enter the height of the triangle: "))
area = 0.5 * base * height
print("The area of the triangle is:", area)
```

Answer:

```
D:\>python exercise2.py
Enter the base length of the triangle: 25
Enter the height of the triangle: 35
The area of the triangle is: 437.5
```

2. Write a Python program to find area of a square.

```
side=float(input('enter the side:'))
area=side*side
print('area of square is: ' ,area)
```

Answer:

```
D:\>python exercise2.py
enter the side:50
area of square is:  2500.0
```

3. Write a Python program to convert Celsius to Fahrenheit.

```
celcius=float(input('enter the value of celcius :'))
farenhit=(celcius*9/5)+32
print('temprature in farenhit :',farenhit)
```

Answer:

```
D:\>python exercise2.py
enter the value of celcius :30
temprature in farenhit : 86.0
```

4. Write a Python program to convert US Dollar to Indian rupees.

```
dollar=float(input('enter the value of dollar :'))
rupees=dollar*82
print('Rupees:',rupees)
```

Answer:

```
D:\>python exercise2.py
enter the value of dollar :100
Rupees: 8200.0
```

5. Write a Python program to convert Liter to Milliliters.

```
liter=float(input('Enter the value of liter:'))
milliliter=liter*1000
print('converted in milliliters:',milliliter)
```

Answer:

```
D:\>python exercise2.py
Enter the value of liter:10
converted in milliliters: 10000.0
```

6. Enter binary, octal and hexadecimal values and convert it into decimal.

```
binary_number=str(input('Enter the value of binary:'))
decimal_number=int(binary_number,2)
print(decimal_number)
```

Answer:

D:\>python exercise2.py
Enter the value of binary:01100
12

octal_number=str(input('Enter the value of octal:'))
decimal_number=int(octal_number,8)
print(decimal_number)

Answer:

D:\>python exercise2.py
Enter the value of octal:0123
83

hexa_number=str(input('Enter the number of Hexadecimal:'))
decimal_number=int(hexa_number,16)
print(decimal_number)

Answer:

D:\>python exercise2.py
Enter the number of Hexadecimal:A
10

7. Accept one integer value from the user; convert it to binary, octal and hexadecimal.

integer_number=int(input('Enter the integer value:'))
binary_number=bin(integer_number)
print(binary_number)

Answer:

D:\>python exercise2.py
Enter the integer value:123
0b1111011

integer_number=int(input('Enter the integer value:'))
octal_number=oct(integer_number)
print(octal_number)

Answer:

D:\>python exercise2.py
Enter the integer value:123
0o173

integer_number=int(input('Enter the integer value:'))
hexa_number=hex(integer_number)
print(hexa_number)

Answer:

D:\>python exercise2.py
Enter the integer value:123
0x7b

8. Accept string from the user ('The Rajkot is a good city to leave'), and do the following operations:

a='The Rajkot is good city to leave'

display the first character of the string
print(a[0])

Answer:

D:\>python exercise2.py
T

display the first character of the string using negative index
print(a[-1])

Answer:

D:\>python exercise2.py
e

display 'Rajkot is a good city'
print(a[4:23])

Answer:

D:\>python exercise2.py
Rajkot is good city

display the last character
print(a[31])

Answer:

D:\>python exercise2.py
e

9. Create bytes, enter some values and display all elements.

a=int(input('Enter a value:'))
b=bytes(a)
print(b)

Answer:

D:\>python exercise2.py
Enter a value:3
b'\x00\x00\x00'

10. Create bytearray, enter some values and perform the following: i). Replace the 3rd element with 7

a=[1,2,34,58,54,7,9]
b=bytearray(a)
b[4]=7
print(b)

Answer:

D:\>python exercise2.py
bytearray(b'\x01\x02":\x07\x07\t')

ii). Display the 5th element.
a=[1,4,5,87,45,64,34,67]
b=bytearray(a)
print(b[5])

Answer:

```
---------------
D:\>python exercise2.py
64
```

11. Create list and insert values. i).Display all the elements.

```
a=[2,4,58,'a','atmiya',67,45]
print(a)
```

Answer:
```
------------------
D:\>python exercise2.py
[2, 4, 58, 'a', 'atmiya', 67, 45]
```

ii). Display the 3rd element

```
a=[2,4,58,5678,'atmiya',67,45]
print(a[3])
```

Answer:
```
------------------
D:\>python exercise2.py
5678
```

iii). Replace the 4th element with 'Atmiya'

```
a=[2,4,58,5678,456,56,'university',67,45]
a[4]='Atmiya'
print(a)
```

Answer:
```
-----------------
D:\>python exercise2.py
[2, 4, 58, 5678, 'Atmiya', 56, 'university', 67, 45]
```

iv). Display elements from 3rd to 7th element.

```
a=[2,4,58,5678,456,56,'university',67,45]
print(a[3:7])
```

Answer:
```
--------------
D:\>python exercise2.py
[5678, 456, 56, 'university']
```

Create tuple and insert values. i). Try to replace the 3rd element with 9

a=(2,4,58,5678,456,56,'university',67,45)
a[3]=9
print(a)

Answer:

D:\>python exercise2.py
Traceback (most recent call last):
\#   File "D:\exercise2.py", line 261, in <module>
\#   a[3]=9
\#   ~^^^
\# TypeError: 'tuple' object does not support item assignment

-> elements of tuple cannot be modify

ii). Display the 5th element.

a=(2,4,58,5678,456,56,'university',67,45)
print(a[5])

Answer:

D:\>python exercise2.py
56

 13. Create a set insert some values. i). Add elements to it and display

a={2,4,5,6,45,67,56}
a.update([12,11])
print(a)

Answer:

D:\>python exercise2.py
{2, 67, 4, 5, 6, 11, 12, 45, 56}

ii)Remove elements from it and display.

a={2,4,5,6,45,67,56}

```
a.remove(45)
print(a)
```

Answer:

```
D:\>python exercise2.py
{2, 67, 4, 5, 6, 56}
```

14 Create a set insert some values and convert it to frozenset. Try to add and remove some elements.

```
a={2,4,5,6,45,67,56}
fs=frozenset(a)
print(fs)
```

Answer:

```
D:\>python exercise2.py
frozenset({2, 67, 4, 5, 6, 56, 45})
```

-> In frozenset Data cannot be updating and remove

15. Create an empty dictionary, Insert some Roll:Name into it. i). Retrieve 5th value using key, ii).
Retrieve all the roll numbers, iii). Retrieve all the names, iv). Change the name of the student
having roll no. 7, v). Remove roll no 9, vi). Display the dictionary.

```
a={}
print(a)
a[1]='john'
a[2]='wickey'
a[3]='jin'
a[4]='din'
a[5]='hin'
a[6]='min'
a[7]='jons'
a[8]='lins'
a[9]='fins'
a[10]='tins'
print(a[5])
print(a.keys())
print(a.values())
a[7]='anant'
```

```
print(a)
del a[9]
print(a)
```

Answer:

```
D:\>python exercise2.py
{}
hin
dict_keys([1, 2, 3, 4, 5, 6, 7, 8, 9, 10])
dict_values(['john', 'wickey', 'jin', 'din', 'hin', 'min', 'jons', 'lins', 'fins', 'tins'])
{1: 'john', 2: 'wickey', 3: 'jin', 4: 'din', 5: 'hin', 6: 'min', 7: 'anant', 8: 'lins', 9: 'fins', 10: 'tins'}
{1: 'john', 2: 'wickey', 3: 'jin', 4: 'din', 5: 'hin', 6: 'min', 7: 'anant', 8: 'lins', 10: 'tins'}
```

16. Create a list having names of months. i). Check whether December is in list or not, ii). Query the
list using 'not in'.

```
Months =['January','february','March','april','may','june','july','august','september','october']
print(Months)
print('december' in Months)
print('december' not in Months)
```

Answer:

```
D:\>python exercise2.py
['January', 'february', 'March', 'april', 'may', 'june', 'july', 'august', 'september', 'october']
False
True
```

17. Take two integer values from the user using split(), perform basic arithmetic
operation on the values.

```
a,b=[int(no) for no in input('enter two number:').split()]
print('sum of the two numbers are:', a+b)
print('sum of the two numbers are:', a-b)
print('sum of the two numbers are:', a*b)
print('sum of the two numbers are:', a/b)
```

Answer:

D:\>python exercise2.py
enter two number:10 20
sum of the two numbers are: 30
sum of the two numbers are: -10
sum of the two numbers are: 200
sum of the two numbers are: 0.5