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## NUMBERS

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### QUESTION 1:

TEXT CODE:

```
n=int(input("enter the number you want to reverse \n"))
reverse=str(n)
reversed=reverse[::-1]
print(reversed)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\numbers\tempCodeRunnerFile.py"
enter the number you want to reverse
123
321
```

---

### QUESTION 2:

TEXT CODE:

```
n=""
n=(input())
x=len(n)
a=0
for i in n:

    a=int(i)**3+a
if a==int(n):
    print("Armstrong")
else:
    print("Not Armstrong")
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
153
Armstrong
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
```

---

### **QUESTION 3:**

TEXT CODE:

```
n = int(input())
a = 0

for i in range(2, n):
    if n % i == 0:
        a = a + 1

if a == 0 and n > 1:
    print("Prime")
else:
    print("Not Prime")
```

OUTPUT SCREENSHOT:

```
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
91
Not Prime
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
7
Prime
```

---

### **QUESTION 4:**

TEXT CODE:

```
n=int(input())
x=[0,1]
for i in range(2,n):
```

```
y=x[i-1]+x[i-2]
x.append(y)

print(x)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\numbers\Q4.py"
10
[0, 1, 1, 2, 3, 5, 8, 13, 21, 34]
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
nts\SEM-3\advanced_programming\python> |
```

---

### **QUESTION 5:**

TEXT CODE:

```
n=int(input())
n=str(n)
if n == n[::-1]:
    print("Palindrome")
else:
    print("Not Palindrome")
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\numbers\tempCodeRunnerFile.py"
1221
Palindrome
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\numbers\tempCodeRunnerFile.py"
122
Not Palindrome
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
nts\SEM-3\advanced_programming\python> |
```

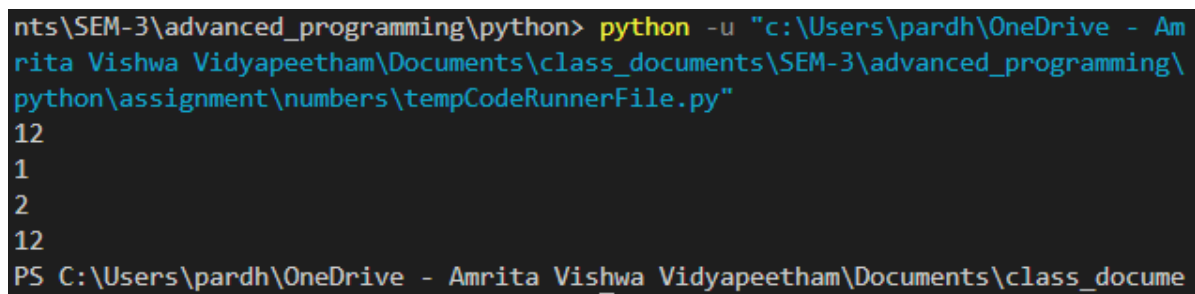
---

### **QUESTION 6:**

TEXT CODE:

```
a=int(input())
b=int(input())
c=int(input())
if a>b:
    if c>a:
        print(c)
    else:
        print(a)
else:
    if b>c:
        print(b)
    else:
        print(c)
```

OUTPUT SCREENSHOT:



```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\numbers\tempCodeRunnerFile.py"
12
1
2
12
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
```

---

### **QUESTION 7:**

TEXT CODE:

```
n=int(input())
n=str(n)
x=len(n)
a=0
for i in n:
    if i=='0' or i=='1':
        a=a+1
if a==x:
    print("Binary")
else:
```

```
print("Not Binary")
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
1231
Not Binary
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
11011010101
Binary
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>
```

---

### **QUESTION 8:**

TEXT CODE:

```
n=int(input())
n=str(n)
Sum=0
for i in n:
    Sum=int(i)+Sum

print(Sum)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
12
3
```

---

### **QUESTION 9:**

TEXT CODE:

```
num_1=int(input())
```

```

num_2=int(input())
num_1=num_1+num_2
num_2=num_1-num_2
num_1=num_1-num_2
print(num_1)
print(num_2)

```

OUTPUT SCREENSHOT:

```

PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
100
23
23
100
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>

```

---

### **QUESTION 10:**

TEXT CODE:

```

num1=int(input())
num2=int(input())
num3=num1
num1=num2
num2=num3
print(num1)
print(num2)

```

OUTPUT SCREENSHOT:

```

PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
12
3
3
12
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>

```

---

### **QUESTION 11:**

TEXT CODE:

```
n=int(input("enter the number please"))
factors=[]
i=2
while n>1:
    while (n%i==0):
        n=n/i
        factors.append(i)
    i=i+1
print(factors)
```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\Q11.py"
enter the number please10
[2, 5]
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

### **QUESTION 12:**

TEXT CODE:

```
a=int(input())
b=int(input())

while b:
    carry =a&b
    a=a^b
    b= carry << 1

print(a)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
123
45
168
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>
```

---

### **QUESTION 13:**

TEXT CODE:

```
n=int(input())
div=[]
for i in range(1,n):
    if n%i==0:
        div.append(i)

if sum(div)==n:
    print("Perfect Number")
else:
    print("Not a Perfect Number")
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
34
Not a Perfect Number
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\numbers\tempCodeRunnerFile.py"
6
Perfect Number
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>
```

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## STRINGS

---

### QUESTION 1:

TEXT CODE:

```
text=input("please enter the name you want to find the text in\n")
n=input("enter the letter you want to remove\n")
text_list=list((text))
#print(text_list)
for i in range(len(text_list)-1):
    if text_list[i]==n:
        text_list[i]=" "
    else:
        pass
stringed=''.join(text_list)
print(stringed)
```

OUTPUT SCREENSHOT:

```
ts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\strings\Q1.py"
please enter the name you want to find the text in
pardhu
enter the letter you want to remove
a
prdh
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>
```

---

### QUESTION 2:

TEXT CODE:

```
text=input()
n=input()
count=0
for i in text:
```

```
    if i==n:
        count=count+1
print(count)
```

OUTPUT SCREENSHOT:

```
python\assignment\strings\tempCodeRunnerFile.py"
hi
hello
0
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> |
```

---

### **QUESTION 3:**

TEXT CODE:

```
text=input()
text=text.lower()
if text== text[::-1]:
    print("Palindrome")
else:
    print("Not Palindrome")
```

OUTPUT SCREENSHOT:

```
python\assignment\strings\tempCodeRunnerFile.py"
inini
Palindrome
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> |
```

---

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## LISTS

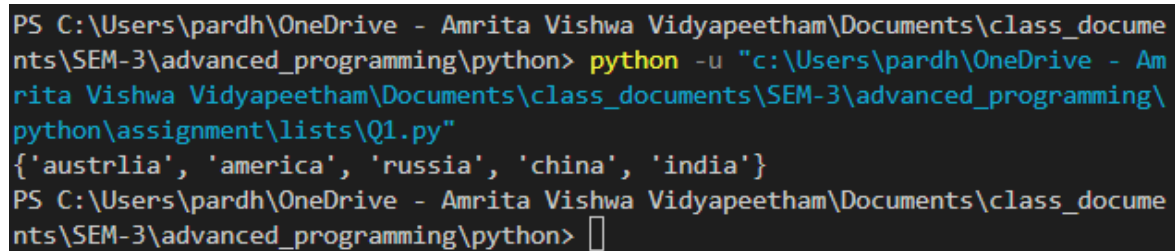
---

### QUESTION 1:

TEXT CODE:

```
my_list=["india","america","australia","china","russia","india","america"]
my_set=set(my_list)
print(my_set)
```

OUTPUT SCREENSHOT:



```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q1.py"
{'austrlia', 'america', 'russia', 'china', 'india'}
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

### QUESTION 2:

TEXT CODE:

```
my_list=["india","america","australia","china","russia","india","america"]
my_list.sort()
print(my_list)
```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q2.py"
['america', 'america', 'austrlia', 'china', 'india', 'india', 'russia']
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

#### **QUESTION 4:**

TEXT CODE:

```
list_100 = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18,
19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36,
37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54,
55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72,
73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100]

for i in range(1, 100):
    if i not in list_100:
        print("Missing integer:", i)
```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q4.py"
Missing integer: 15
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

#### **QUESTION 5:**

TEXT CODE:

```
my_list=[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,
19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36,
```

```

37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54,
55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72,
73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,
91, 92, 93, 94, 95, 96, 97, 98, 99, 100,11,11,11,12,12,13,13,13]
there = set()
doop = set()
for num in my_list:
    if num not in there:
        there.add(num)
    else:
        doop.add(num)
print("here are the duplicate numbers",doop)

```

OUTPUT SCREENSHOT:

```

PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q5.py"
here are the dooplicate numbers {11, 12, 13}
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>

```

---

### **QUESTION 6:**

TEXT CODE:

```

sum=13
my_lis=[1,2,3,4,5,6,5,8,9,10,11]
my_set=set(my_lis)
my_list=list(my_set)
for i in my_list:
    for j in my_list:
        if (i+j==sum and my_list.index(i) <= my_list.index(j)):
            print(i,j)

```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q6.py"
2 11
3 10
4 9
5 8
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

### **QUESTION 7:**

TEXT CODE:

```
list1=[1,2,3,4,5,6,7,8,9,0]
list2=[2,4,5,6]
size_of_list_1=len(list1)
size_of_list_2=len(list2)
if (size_of_list_1 == size_of_list_2):
    print("equal")
else:
    print("not equal")
```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\tempCodeRunnerFile.py"
not equal
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

### **QUESTION 8:**

TEXT CODE:

```
from random import randint
my_list = []
for i in range(10):
```

```
my_list.append(randint(1,500))
my_list.sort()
print(my_list)
print("minimum number is ",my_list[0])
print("maximum number is ",my_list[len(my_list)-1])
```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q8.py"
[180, 230, 246, 249, 273, 274, 368, 405, 453, 467]
minimum number is 180
maximum number is 467
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

### **QUESTION 9:**

TEXT CODE:

```
from random import randint
my_list = []
for i in range(10):
    my_list.append(randint(1,500))
my_list.sort()
print("list is",my_list)
print("second maximum number is ",my_list[len(my_list)-2])
```

OUTPUT SCREENSHOT:

```
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\lists\Q9.py"
list is [35, 117, 145, 187, 259, 266, 273, 359, 426, 426]
second maximum number is 426
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python> █
```

---

## DICTIONARY

---

### QUESTION 1:

TEXT CODE:

```
key=input("enter the key to be checked in the dictionary")
D1 = {'first_name' : 'Jim', 'age' : 23, 'height' : 6.0 , 'job' :
'developer', 'company': 'XYZ'}
if key in D1:
    print("yes")
else:
    print("no")
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\Dictionary\Q1.py"
enter the key to be checked in the dictionaryfirst_name
yes
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Am
rita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\
python\assignment\Dictionary\Q1.py"
enter the key to be checked in the dictionarypardhu
no
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_docume
nts\SEM-3\advanced_programming\python> |
```

---

### QUESTION 2:

TEXT CODE:

```
D1 = {2: 8, 5: 20, 3: 15}
keys=list(D1.keys())
values=list(D1.values())
sum_list=[]
for i in range(len(D1)):
    sum=keys[i]+values[i]
    sum_list.append(sum)
print(sum_list)
```



OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\Dictionary\Q2.py"
[10, 25, 18]
```

### **QUESTION 3:**

TEXT CODE:

```
D1 = {'first_name' : 'Jim', 'age' : 23, 'height' : 6.0 , 'job' : 'developer', 'company': 'XYZ'}
D2 = {'age' : 35, 'job' : 'senior data analyst'}
for key in D1:
    for key2 in D2:
        if key==key2:
            D1[key]=D2[key2]
print("updated dictionary:",D1)
print(D2)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\Dictionary\tempCodeRunnerFile.py"
updated dictionary: {'first_name': 'Jim', 'age': 35, 'height': 6.0, 'job': 'senior data analyst', 'company': 'XYZ'}
{'age': 35, 'job': 'senior data analyst'}
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>
```

---

### **QUESTION 4:**

TEXT CODE:

```
D1 = {'jim': 23, 'sam': 29, 'dean': 33, 'micheal': 40}
keys = ["jim", "sam"]
for k in keys:
    D1.pop(k)
print(D1)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\Dictionary\tempCodeRunnerFile.py"
{'dean': 33, 'micheal': 40}
```

---

### **QUESTION 5:**

TEXT CODE:

```
D1 = {'Jim': 23, 'Jerry': 29, 'Micheal': 40, 'Merlin': 45, 'Antony': 34}
res_dict = dict(sorted(D1.items()))
print(res_dict)
```

OUTPUT SCREENSHOT:

```
nts\SEM-3\advanced_programming\python> python -u "c:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python\assignment\Dictionary\tempCodeRunnerFile.py"
{'Antony': 34, 'Jerry': 29, 'Jim': 23, 'Merlin': 45, 'Micheal': 40}
PS C:\Users\pardh\OneDrive - Amrita Vishwa Vidyapeetham\Documents\class_documents\SEM-3\advanced_programming\python>
```

---