

Assignment -1
Python Programming

Assignment Date	29 September 2022
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Maximum Marks	2 Marks

Question-1:

Write a Python program to add two objects if both objects are an integer type.

Solution:

```
def add_numbers(a, b):  
    if not (isinstance(a, int) and isinstance(b, int)):  
        return "Inputs must be integers!"  
    return a + b  
print(add_numbers(10, 20))  
print(add_numbers(10, 20.23))  
print(add_numbers('5', 6))  
print(add_numbers('5', '6'))
```



The screenshot shows a Python code editor interface. The code is as follows:

```
1 def add_numbers(a, b):  
2     if not (isinstance(a, int) and isinstance(b, int)):  
3         return "Inputs must be integers!"  
4     return a + b  
5 print(add_numbers(10, 20))  
6 print(add_numbers(10, 20.23))  
7 print(add_numbers('5', 6))  
8 print(add_numbers('5', '6'))
```

The output on the right side of the editor is:

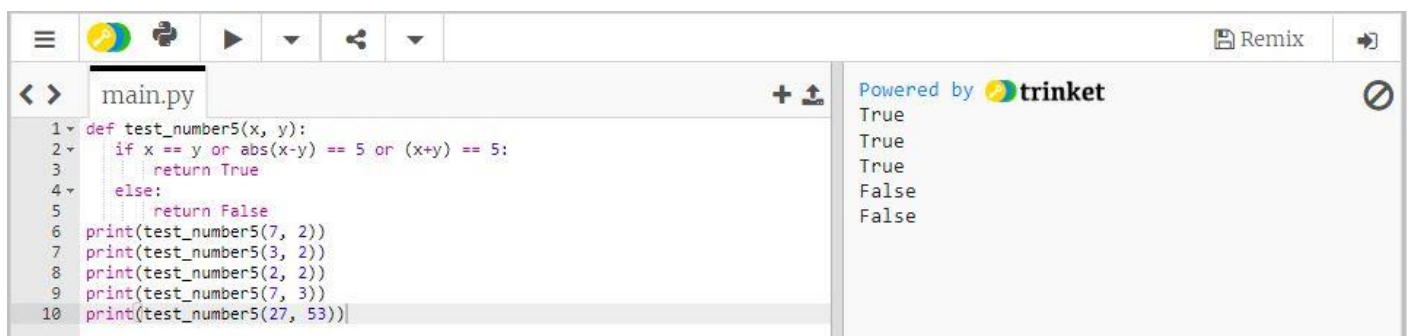
```
30  
Inputs must be integers!  
Inputs must be integers!  
Inputs must be integers!
```

Question-2:

Write a Python program which will return true if the two given integer values are equal or their sum or difference is 5

Solution:

```
def test_number5(x, y):
    if x == y or abs(x-y) == 5 or (x+y) == 5:
        return True
    else:
        return False
print(test_number5(7, 2))
print(test_number5(3, 2))
print(test_number5(2, 2))
print(test_number5(7, 3))
print(test_number5(27, 53))
```



The screenshot shows a web-based Python IDE interface. On the left, a code editor displays the Python code for the 'test_number5' function and its test cases. The code is as follows:

```
1 def test_number5(x, y):
2     if x == y or abs(x-y) == 5 or (x+y) == 5:
3         return True
4     else:
5         return False
6 print(test_number5(7, 2))
7 print(test_number5(3, 2))
8 print(test_number5(2, 2))
9 print(test_number5(7, 3))
10 print(test_number5(27, 53))
```

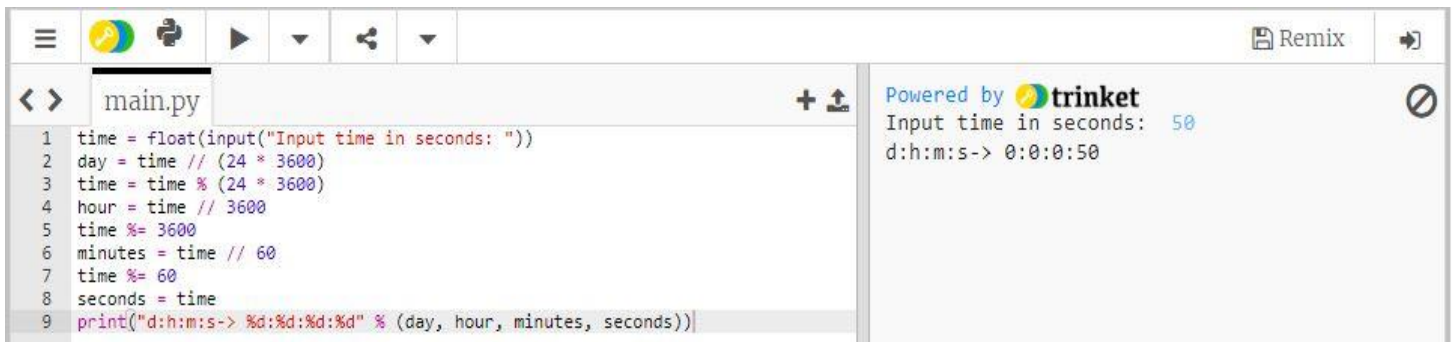
On the right, the output of the code is displayed, showing the results of the function calls: True, True, True, False, and False. The interface also includes a 'Remix' button and a 'Powered by trinket' logo.

Question-3:

Write a Python program to convert seconds to day, hour, minutes and seconds.

Solution:

```
time = float(input("Input time in seconds: "))
day = time // (24 * 3600)
time = time % (24 * 3600)
hour = time // 3600
time %= 3600
minutes = time // 60
time %= 60
seconds = time
print("d:h:m:s-> %d:%d:%d:%d" % (day, hour, minutes, seconds))
```



The screenshot shows a Python code editor interface. On the left, a file named 'main.py' is open, displaying the following code:

```
1 time = float(input("Input time in seconds: "))
2 day = time // (24 * 3600)
3 time = time % (24 * 3600)
4 hour = time // 3600
5 time %= 3600
6 minutes = time // 60
7 time %= 60
8 seconds = time
9 print("d:h:m:s-> %d:%d:%d:%d" % (day, hour, minutes, seconds))
```

On the right, the output of the program is shown, indicating it is powered by trinket. The input is '50' seconds, and the output is 'd:h:m:s-> 0:0:0:50'.

Question-4:

Write a Python program to calculate body mass index.

Solution:

```
height = float(input("Input your height in Feet: "))
weight = float(input("Input your weight in Kilogram: "))
print("Your body mass index is: ", round(weight / (height * height),
2))
```



The screenshot shows a Python code editor interface. On the left, a file named 'main.py' is open, displaying the following code:

```
1 height = float(input("Input your height in Feet: "))
2 weight = float(input("Input your weight in Kilogram: "))
3 print("Your body mass index is: ", round(weight / (height * height), 2))
```

On the right, the output of the program is shown, indicating it is powered by trinket. The input for height is '6' feet and for weight is '70' kilograms. The output is 'Your body mass index is: 1.94'.

Question-5:

Write a Python program to hash a word.

Solution:

```
soundex=[0,1,2,3,0,1,2,0,0,2,2,4,5,5,0,1,2,6,2,3,0,1,0,2,0,2]
```

```
word=input("Input the word be hashed: ")
```

```
word=word.upper()
```

```
coded=word[0]
```

```
for a in word[1:len(word)]:
```

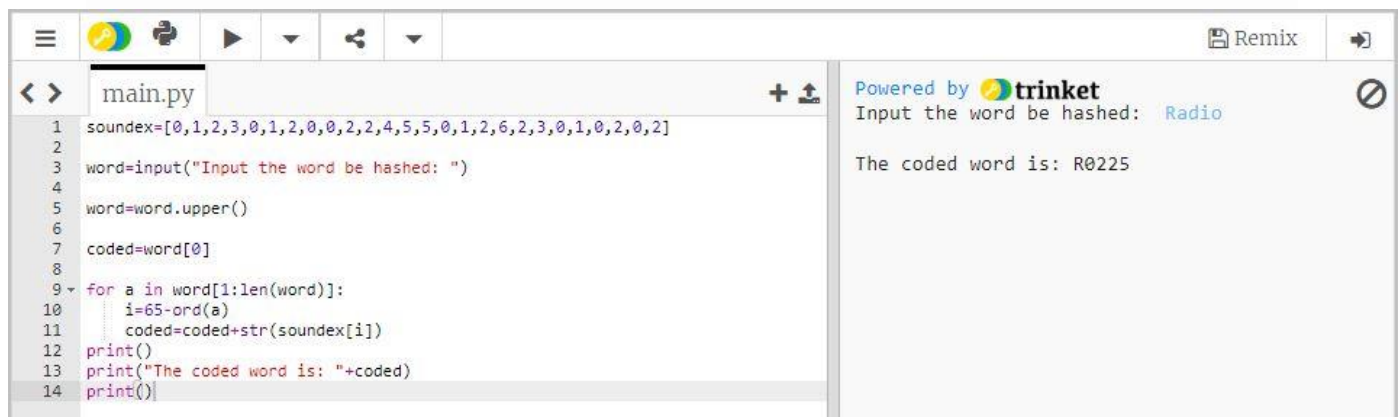
```
    i=65-ord(a)
```

```
    coded=coded+str(soundex[i])
```

```
print()
```


```
print("The coded word is: "+coded)
```

```
print()
```



The screenshot shows a Trinket Python IDE interface. On the left, a code editor displays a Python script for hashing a word using the Soundex algorithm. The script defines a list of soundex values and iterates through each character of the input word (converted to uppercase) to build a coded string. The output shows the word 'Radio' being hashed to 'R0225'. The right side of the interface shows the program's execution output, confirming the input and the resulting coded word.

```
1 soundex=[0,1,2,3,0,1,2,0,0,2,2,4,5,5,0,1,2,6,2,3,0,1,0,2,0,2]
2
3 word=input("Input the word be hashed: ")
4
5 word=word.upper()
6
7 coded=word[0]
8
9 for a in word[1:len(word)]:
10     i=65-ord(a)
11     coded=coded+str(soundex[i])
12 print()
13 print("The coded word is: "+coded)
14 print()
```

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Input the word be hashed:

The coded word is: R0225