

Task1:

```
t1 = (10, 20, "Python", "Code")
```

```
t2 = ("A", "B")
```

```
print(t1[0])
```

```
print(t2[-1])
```

```
l = list(t1)
```

```
l[-1] = "Program"
```

```
t1 = tuple(l)
```

```
print(t1)
```

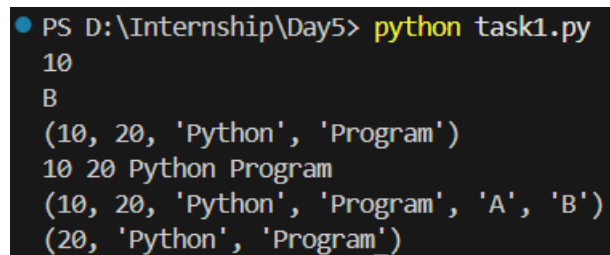
```
a, b, c, d = t1
```

```
print(a, b, c, d)
```

```
t = t1 + t2
```

```
print(t)
```

```
print(t[1:4])
```

Output:A terminal window with a black background and blue text. The prompt is 'PS D:\Internship\Day5>'. The command 'python task1.py' is entered. The output is: '10', 'B', '(10, 20, 'Python', 'Program')', '10 20 Python Program', '(10, 20, 'Python', 'Program', 'A', 'B')', and '(20, 'Python', 'Program')'.

```
PS D:\Internship\Day5> python task1.py
10
B
(10, 20, 'Python', 'Program')
10 20 Python Program
(10, 20, 'Python', 'Program', 'A', 'B')
(20, 'Python', 'Program')
```

Task2:

```
t1 = (1, 2, 3)
```

```
# 7. Multiply the tuple by 3
```

```
result = t1 * 3
```

```
print(result)
```

Output:

```
PS D:\Internship\Day5> python task2.py  
(1, 2, 3, 1, 2, 3, 1, 2, 3)
```

Task3:

```
my_set = {10, 20, 30, 40}
```

1. Print the given set

```
print(my_set)
```

2. Check whether 20 is present in my_set

```
print(20 in my_set)
```

3. Find and print the length of my_set

```
print(len(my_set))
```

4. Add 50 to my_set.

```
my_set.add(50)
```

```
print(my_set)
```

5. Remove 30 from my_set.

```
my_set.remove(30)
```

```
print(my_set)
```

6. Remove an element using discard() and note the output.

```
my_set.discard(20)
```

```
print(my_set)
```

7. Remove a random element from my_set.

```
my_set.pop()
```

```
print(my_set)
```

8. Loop through my_set and print each element.

```
for item in my_set:
```

```
    print(item)
```

9. Clear all elements from my_set

```
my_set.clear()
```

```
print(my_set)
```

Output:

```
PS D:\Internship\Day5> python task3.py
{40, 10, 20, 30}
True
4
{40, 10, 50, 20, 30}
{40, 10, 50, 20}
{40, 10, 50}
{10, 50}
10
50
set()
```

Task4:

```
set1 = {1, 2, 3}
```

```
set2 = {3, 4, 5, 6}
```

10. Elements in set1 but not in set2

```
print(set1 - set2)
```

11. Elements in either set1 or set2 but not in both (symmetric difference)

```
print(set1 ^ set2)
```

12. Add all items from set2 into set1

```
set1.update(set2)
```

```
print(set1)
```

13. Print all unique elements from both set1 and set2

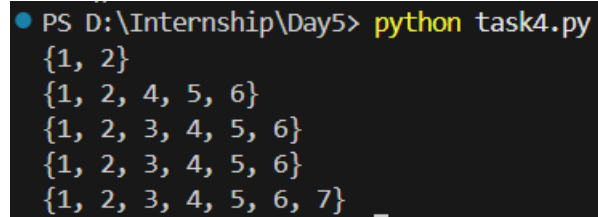
```
print(set1 | set2)
```

14. Add 7 to set1

```
set1.add(7)
```

```
print(set1)
```

Output:



```
PS D:\Internship\Day5> python task4.py
{1, 2}
{1, 2, 4, 5, 6}
{1, 2, 3, 4, 5, 6}
{1, 2, 3, 4, 5, 6}
{1, 2, 3, 4, 5, 6, 7}
```

Task5:

```
student = {
    "name": "Anu",
    "age": 20,
    "course": "Python"
}
```

1. Print all keys, values, and items

```
print(student.keys())
```

```
print(student.values())
```

```
print(student.items())
```

2. Access the value of "name"

```
print(student["name"])
```

3. Access the value of "course" using get()

```
print(student.get("course"))
```

4. Add a new key "marks" with value 85

```
student["marks"] = 85
```

```
print(student)
```

5. Update the value of "age" to 21

```
student["age"] = 21  
print(student)
```

6. Remove "course" using pop()

```
student.pop("course")  
print(student)
```

7. Remove the last inserted item using popitem()

```
student.popitem()  
print(student)
```

8. Loop through the dictionary and print keys and values

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

Output:

```
PS D:\Internship\Day5> python task5.py  
dict_keys(['name', 'age', 'course'])  
dict_values(['Anu', 20, 'Python'])  
dict_items([('name', 'Anu'), ('age', 20), ('course', 'Python')])  
Anu  
Python  
{'name': 'Anu', 'age': 20, 'course': 'Python', 'marks': 85}  
{'name': 'Anu', 'age': 21, 'course': 'Python', 'marks': 85}  
{'name': 'Anu', 'age': 21, 'marks': 85}  
{'name': 'Anu', 'age': 21}  
name : Anu  
age : 21
```

Task6:

```
students = {  
    "student1": {"name": "Anu", "age": 20},  
    "student2": {"name": "Ravi", "age": 21}  
}
```

9. Print the complete nested dictionary

```
print(students)
```

10. Create a copy of the students dictionary

```
students_copy = students.copy()
print(students_copy)
```

Output:

```
PS D:\Internship\Day5> python task6.py
{'student1': {'name': 'Anu', 'age': 20}, 'student2': {'name': 'Ravi', 'age': 21}}
{'student1': {'name': 'Anu', 'age': 20}, 'student2': {'name': 'Ravi', 'age': 21}}
```

Task7:

```
employee = {
    "emp_id": 101,
    "name": "Kiran",
    "department": "HR",
    "salary": 35000
}
```

13. Display all keys

```
print(employee.keys())
```

14. Display all values

```
print(employee.values())
```

15. Display all key-value pairs

```
print(employee.items())
```

16. Access and print the value of "name"

```
print(employee["name"])
```

17. Update the "salary" to 40000

```
employee["salary"] = 40000
print(employee)
```

Output:

```
PS D:\Internship\Day5> python task7.py
dict_keys(['emp_id', 'name', 'department', 'salary'])
dict_values([101, 'Kiran', 'HR', 35000])
dict_items([('emp_id', 101), ('name', 'Kiran'), ('department', 'HR'), ('salary', 35000)])
Kiran
{'emp_id': 101, 'name': 'Kiran', 'department': 'HR', 'salary': 40000}
```