

PRACTICAL-5

AIM: a) Write a python program to Illustrate Different Set Operations?
b) Write a python program to generate Calendar for the given month and year? c) Write a python program to implement Simple Calculator program?

Code A :

```
even = {'null', 2, 4, 6, 8};
odd = {'null', 3, 5, 7};
def Union(even, odd):
    print("Union of even and odd is", even | odd)    # set union
def Intersection(even, odd):
    print("Intersection of even and odd is", even & odd)    # set intersection
def Difference(even, odd):
    print("Difference of even and odd is", even - odd)    # set difference
def Symmetric(even, odd):
    print("Symmetric difference of even and odd is", even ^ odd) # set symmetric difference
```

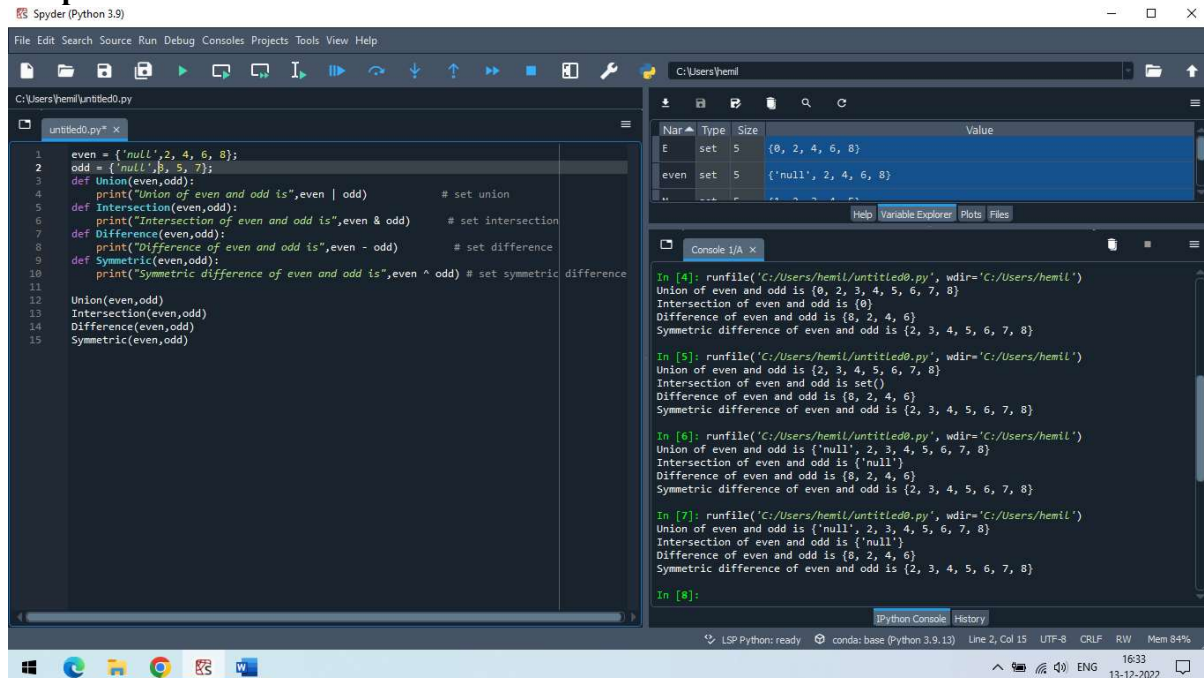
Union(even, odd)

Intersection(even, odd)

Difference(even, odd)

Symmetric(even, odd)

Output:



The screenshot shows the Spyder Python IDE with the code from 'Code A' in the editor. The console on the right displays the output of the code. The output shows the results of the set operations for the given sets: even = {'null', 2, 4, 6, 8} and odd = {'null', 3, 5, 7}.

Nar	Type	Size	Value
E	set	5	{0, 2, 4, 6, 8}
even	set	5	{'null', 2, 4, 6, 8}

The console output shows the following results:

```
In [4]: runfile('C:/Users/hemil/untitled0.py', wdir='C:/Users/hemil')
Union of even and odd is {0, 2, 3, 4, 5, 6, 7, 8}
Intersection of even and odd is {0}
Difference of even and odd is {8, 2, 4, 6}
Symmetric difference of even and odd is {2, 3, 4, 5, 6, 7, 8}

In [5]: runfile('C:/Users/hemil/untitled0.py', wdir='C:/Users/hemil')
Union of even and odd is {2, 3, 4, 5, 6, 7, 8}
Intersection of even and odd is set()
Difference of even and odd is {8, 2, 4, 6}
Symmetric difference of even and odd is {2, 3, 4, 5, 6, 7, 8}

In [6]: runfile('C:/Users/hemil/untitled0.py', wdir='C:/Users/hemil')
Union of even and odd is {'null', 2, 3, 4, 5, 6, 7, 8}
Intersection of even and odd is {'null'}
Difference of even and odd is {8, 2, 4, 6}
Symmetric difference of even and odd is {2, 3, 4, 5, 6, 7, 8}

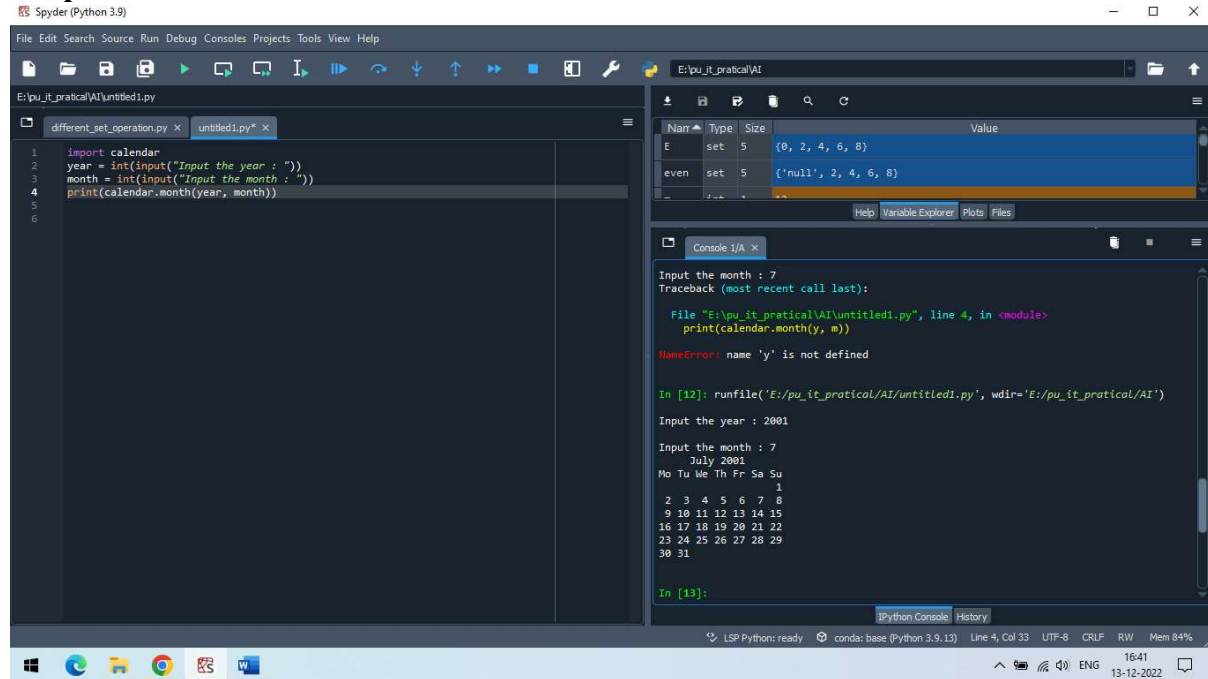
In [7]: runfile('C:/Users/hemil/untitled0.py', wdir='C:/Users/hemil')
Union of even and odd is {'null', 2, 3, 4, 5, 6, 7, 8}
Intersection of even and odd is {'null'}
Difference of even and odd is {8, 2, 4, 6}
Symmetric difference of even and odd is {2, 3, 4, 5, 6, 7, 8}

In [8]:
```

Code B :

```
import calendar
year = int(input("Input the year : "))
month = int(input("Input the month : "))
print(calendar.month(year, month))
```

Output:

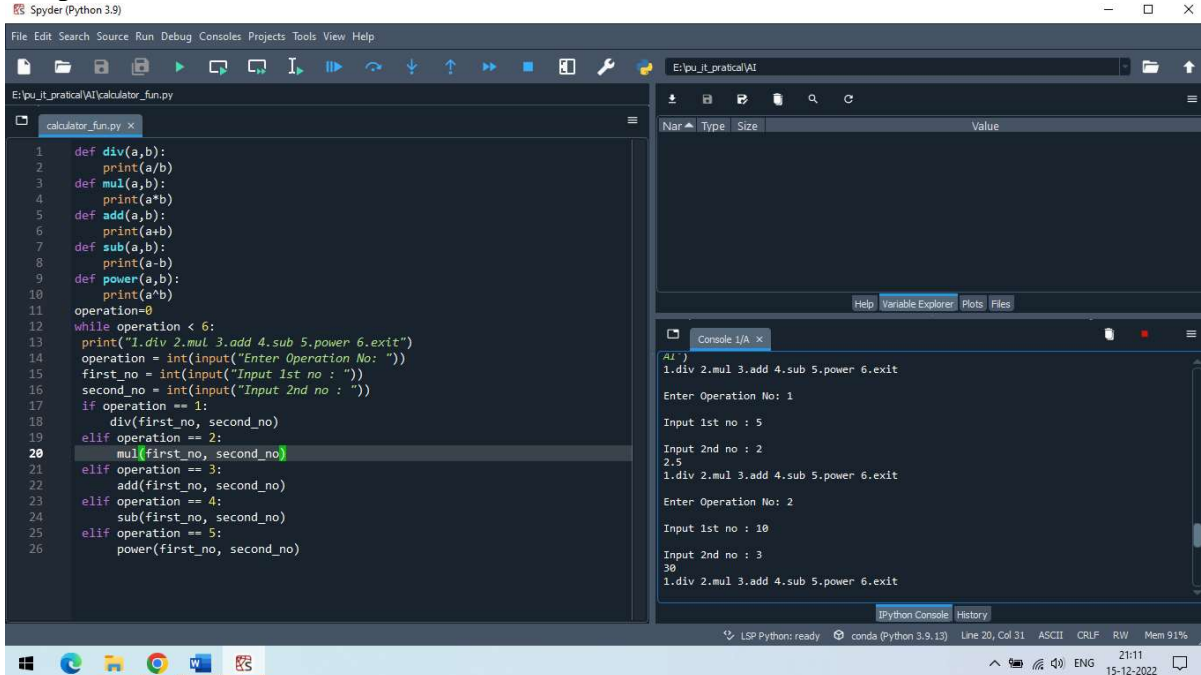


Code C :

```
def div(a,b):
    print(a/b)
def mul(a,b):
    print(a*b)
def add(a,b):
    print(a+b)
def sub(a,b):
    print(a-b)
def power(a,b):
    print(a^b)
operation=0
while operation < 6:
    print("1.div 2.mul 3.add 4.sub 5.power 6.exit")
    operation = int(input("Enter Operation No: "))
    first_no = int(input("Input 1st no : "))
    second_no = int(input("Input 2nd no : "))
    if operation == 1:
        div(first_no, second_no)
    elif operation == 2:
        mul(first_no, second_no)
```

```
elif operation == 3:  
    add(first_no, second_no)  
elif operation == 4:  
    sub(first_no, second_no)  
elif operation == 5:  
    power(first_no, second_no)
```

Output:



The screenshot displays the Spyder Python IDE interface. The left pane shows the code for a calculator program in a file named `calculator_fun.py`. The code defines functions for division, multiplication, addition, subtraction, and power, and includes a loop that prompts the user for an operation and two numbers. The right pane shows the console output, which matches the program's execution: it prompts for an operation (1 for division), then for two numbers (5 and 2), and finally displays the result (2.5). The console also shows the menu options: 1.div 2.mul 3.add 4.sub 5.power 6.exit.

```
1 def div(a,b):  
2     print(a/b)  
3 def mul(a,b):  
4     print(a*b)  
5 def add(a,b):  
6     print(a+b)  
7 def sub(a,b):  
8     print(a-b)  
9 def power(a,b):  
10    print(a**b)  
11    operation=0  
12    while operation < 6:  
13        print("1.div 2.mul 3.add 4.sub 5.power 6.exit")  
14        operation = int(input("Enter Operation No: "))  
15        first_no = int(input("Input 1st no : "))  
16        second_no = int(input("Input 2nd no : "))  
17        if operation == 1:  
18            div(first_no, second_no)  
19        elif operation == 2:  
20            mul(first_no, second_no)  
21        elif operation == 3:  
22            add(first_no, second_no)  
23        elif operation == 4:  
24            sub(first_no, second_no)  
25        elif operation == 5:  
26            power(first_no, second_no)
```

Console 1/A x
AI :
1.div 2.mul 3.add 4.sub 5.power 6.exit
Enter Operation No: 1
Input 1st no : 5
Input 2nd no : 2
2.5
1.div 2.mul 3.add 4.sub 5.power 6.exit
Enter Operation No: 2
Input 1st no : 10
Input 2nd no : 3
30
1.div 2.mul 3.add 4.sub 5.power 6.exit