



**SVR ENGINEERING COLLEGE**  
**(Approved by AICTE, New Delhi and**  
**Permanently Affiliated to JNTUA,**  
**Anantapuramu, and Accredited by NBA)**  
**Ayyaluru Metta, Nandyal, A.P. - 518502**



## **LABORATORY RECORD BOOK**

**Name of the Student:**.....

**Roll Number:**.....

**Year:**..... **Semester:**.....

**Lab Name:**.....

**Counseling code for EAPCET / POLYCET / ICET / PGCET**

**ASVR**

**Department of Computer Science and Engineering**

**SVR ENGINEERING COLLEGE**

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**Ayyaluru Metta, Nandyal, A.P. – 518502**

**Academic Year: 2022 - 2023**

**1. Write a program to find the largest element among three Numbers.**

```
num1=int(input("enter first number"))
num2=int(input("enter second number"))
num3=int(input("enter third number"))
if(num1>num2)and(num1>num3):
    print(num1,"is the largest number")
elif(num2>num1)and(num2>num3):
    print(num2,"is the largest number")
else:
    print(num3,"is the largest number")
```

**output:-**

```
enter first number 12
enter second number 52
enter third number 42
52 s the largest number
```

**2. Write a Program to display all prime numbers within an interval**

```
start=int(input("enter starting number here(>1):"))
end=int(input("enter ending number here:"))
for i in range(start,end+1):
    if i>1:
        for num in range(2,i):
            if i%num==0:
                break
        else:
            print(i)
```

**output:-**

enter starting number here(>1): 2

enter ending number here: 25

2

3

5

7

11

13

17

19

23

**3. Write a program to swap two numbers without using a temporary variable.**

```
a=int(input("enter a value:"))
```

```
b=int(input("enter b value:"))
```

```
a=a+b
```

```
print(a)
```

```
b=a-b
```

```
print(b)
```

```
a=a-b
```

```
print("The value of a:",a)
```

```
print("The value of b:",b)
```

**output:-**

enter a value: 10

enter b value: 20

30

10

The value of a: 20

The value of b: 10

#### **4. Demonstrate the following Operators in Python with suitable examples.**

i) Arithmetic Operators ii) Relational Operators iii) Assignment Operators iv) Logical Operators v) Bit wise Operators vi) Ternary Operator vii) Membership Operators viii) Identity Operators

##### **i) Arithmetic Operators**

###### **1.Addition**

```
a = 10
b = 5
result = a + b
print("The sum of", a, "and", b, "is", result)
```

**output:-**

The sum of 10 and 5 is 15

###### **2.Subtraction**

```
a = 15
b = 7
result = a - b
print("The difference between", a, "and", b, "is", result)
```

**output:-**

The difference between 15 and 7 is 8

###### **3. Multiplication**

```
a = 6
b = 4
result = a * b
print("The product of", a, "and", b, "is", result)
```

**output:-**

The product of 6 and 4 is 24

**4. Division**

```
a = 20
```

```
b = 4
```

```
result = a / b
```

```
print("The division of", a, "by", b, "is", result)
```

**output:-**

The division of 20 by 4 is 5.0

**5. Modulus**

```
a = 23
```

```
b = 5
```

```
result = a % b
```

```
print("The remainder of", a, "divided by", b, "is", result)
```

**output:-**

The remainder of 23 divided by 5 is 3

**6. Exponentiation**

```
a = 2
```

```
b = 3
```

```
result = a ** b
```

```
print(a, "raised to the power of", b, "is", result)
```

**output:-**

2 raised to the power of 3 is 8

## **7. Floor Division**

```
a = 17
```

```
b = 5
```

```
result = a // b
```

```
print("The floor division of", a, "by", b, "is", result)
```

**output:-**

The floor division of 17 by 5 is 3

## **ii) Relational Operators**

### **1. Equal to (==)**

```
a = 5
```

```
b = 10
```

```
print(a == b)
```

**Output:** False

### **2. Not equal to (!=)**

```
a = 5
```

```
b = 10
```

```
print(a != b)
```

**Output:** True

### **3. Greater than (>)**

```
a = 10
```

```
b = 5
```

```
print(a > b)
```

**Output:** True

#### **4. Less than (<)**

```
a = 3
```

```
b = 7
```

```
print(a < b)
```

**Output:** True

#### **5. Greater than or equal to (>=)**

```
a = 10
```

```
b = 10
```

```
print(a >= b)
```

**Output:** True

#### **6. Less than or equal to (<=)**

```
a = 8
```

```
b = 10
```

```
print(a <= b)
```

**Output:** True

### iii) Assignment Operators

#### 1. Basic Assignment (=)

```
x = 5  
print(x)  
Output: 5
```

#### 2. Addition Assignment (+=)

```
x = 10  
x += 5  
print(x)  
Output: 15
```

#### 3. Subtraction Assignment (-=)

```
x = 10  
x -= 3  
print(x)  
Output: 7
```

#### 4. Multiplication Assignment (\*=)

```
x = 4  
x *= 3  
print(x)  
Output: 12
```

#### 5. Division Assignment (/=)

```
x = 10  
x /= 4  
print(x)  
Output: 2.5
```



## 6. Floor Division Assignment (//=)

```
x = 10
```

```
x //= 3
```

```
print(x)
```

**Output:** 3

## 7. Modulus Assignment (%=)

```
x = 10
```

```
x %= 4
```

```
print(x)
```

**Output:** 2

## 8. Exponentiation Assignment (\*\*=)

```
x = 2
```

```
x **= 3
```

```
print(x)
```

**Output:** 8

## iv) Logical Operators

### 1. Logical AND (and)

```
a = True
```

```
b = False
```

```
# Logical AND
```

```
print(a and b)
```

**Output:** False

### 2. Logical OR (or)

```
a = True
```

```
b = False
```

```
print(a or b)
```

**Output:** True

### 3. Logical NOT (not)

```
a = True
```

```
b = False
```

```
print(not a)
```

```
print(not b)
```

Output: False

Output: True

## v) Bit wise Operators

### 1. Bitwise AND (&)

```
a = 5 # Binary: 0101
```

```
b = 3 # Binary: 0011
```

```
result = a & b
```

```
print(result)
```

**Output:** 1 (Binary: 0001)

### 2. Bitwise OR (|)

```
a = 5 # Binary: 0101
```

```
b = 3 # Binary: 0011
```

```
result = a | b
```

```
print(result)
```

**Output:** 7 (Binary: 0111)

### 3. Bitwise XOR (^)

```
a = 5 # Binary: 0101
```

```
b = 3 # Binary: 0011
```

```
result = a ^ b
```

```
print(result)
```

**Output:** 6 (Binary: 0110)

### 4. Bitwise NOT (~)

```
a = 5 # Binary: 0101
```

```
result = ~a
```

```
print(result)
```

**Output:** -6 (Binary: ...11111010)

### 5. Bitwise Left Shift (<<)

```
a = 5 # Binary: 0101
```

```
result = a << 1
```

```
print(result)
```

**Output:** 10 (Binary: 1010)

### 6. Bitwise Right Shift (>>)

```
a = 5 # Binary: 0101
```

```
result = a >> 1
```

```
print(result)
```

**Output:** 2 (Binary: 0010)

### vi) Ternary Operator

```
age = 20
```

```
eligibility= "eligible to vote" if age >= 18 else "not eligible to vote"
```

```
print(eligibility)
```

**Output:**eligible to vote

**vii) Membership Operators**

```
my_list=[10,2,22,25]
print(10 in my_list)
print(22 not in my_list)
```

**output:-**

True

False

**vii) Identity Operators**

```
a=20
b=20
print(a is b)
a="smith"
b="john"
print(a is not b)
```

**output:-**

True

True

**5. Write a program to add and multiply complex numbers**

```
first=complex(input("enter the first complex number:"))
second=complex(input("enter the second complex number:"))
total=first+second
print(total)
```

**output:-**

enter the first complex number: 2+8j

enter the second complex number: 6+4j

(8+12j)

**Multiplication:-**

```
first=complex(input("enter the first complex number:"))
```

```
second=complex(input("enter the second complex number:"))
```

```
result=first*second
```

```
print(result)
```

**output:-**

enter the first complex number: 2+2j

enter the second complex number: 3+6j

(-6+18j)

**6. Write a program to print multiplication table of a given number.**

```
num = int(input("enter the number:"))
```

```
# Iterate 10 times from i = 1 to 10
```

```
for i in range(1, 11):
```

```
    print(num, 'x', i, '=', num*i)
```

**output:-**

enter the number:12

12 x 1 = 12

12 x 2 = 24

12 x 3 = 36

12 x 4 = 48

12 x 5 = 60

12 x 6 = 72

$$12 \times 7 = 84$$

$$12 \times 8 = 96$$

$$12 \times 9 = 108$$

$$12 \times 10 = 120$$