



LABORATORY WORK BOOK

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Class : CSE - B Semester : VI

Course Code : ACIC09 Course Name : SQAT Laboratory

Name of the Course Faculty : Mr. Suresh Babu


Faculty ID : IARE10996

Exercise Number : Week Number : 01

Date : 4/4/24

S. No.	Exercise Number	EXERCISE NAME	MARKS AWARDED						
			Aim/ Preparation	Algorithm / Procedure		Source Code	Program Execution	Viva - Voce	Total
				Performance in the Lab		Calculations and Graphs	Results and Error Analysis		
			4	4		4	4	4	20
1	1.1	Different range of values & testcase (do while)	4		4	4	4	4	20
2	1.2	Different range of values & testcase (while)	1						
3	1.3	Different range of values & testcase (if - else)							
4	1.4	Different range of values & testcase (for)							
5									
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Signature of the Student


Signature of the Faculty

START WRITING FROM HERE

- 1.1 Different range of values and test cases (do while)
Analyse the working of do while with different range of values and test cases.

Program: C

```
do #include <stdio.h>
int main()
{
    int i;
    scanf("%d", &i);
    do
    {
        printf("%d\n", i); if (i > 0) {
            i--; } else { i++; }
    }
    while (i != 0);
}
```

Test case 1: Positive Range

5 → Input

5
4
3
2
1 } Output

Test case 2: Negative Range

-5 → Input

-5
-4
-3
-2
-1 } Output

1.2 Different range of values / test cases (while)
Analyze the working of while with different range of values and test cases.

Program: Python

```
i = int(input())  
while i != 0:  
    print(i)  
    if i % 2 == 0:  
        print('Even number')  
    else:  
        print('odd number')  
    if i < 0:  
        i += 1  
    else:  
        i -= 1
```

Test case 1: Positive Range

5 → Input
Output:
5
Odd number
4
Even number
3
Odd number
2
Even number
1
Odd number

Test Case 2: Negative Range

Input:

-5

Output:

-5

Odd number

-4

Even number

-3

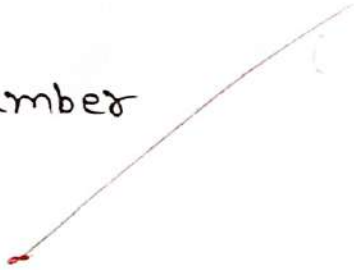
Odd number

-2

Even number

-1

Odd number



- 1.3 Different range of values & test cases (if else)
Analyse the working of if else with different range of values and test cases.

Program: Python

```
i = int(input('Enter Integer:'))  
if (i > 0):  
    print('Positive Number')  
elif i < 0:  
    print('Negative Number')  
else:  
    print('Neither positive nor negative.')
```

Test case 1: Positive Value

Input: 5

Output:

Positive Number

Test case 2: Negative value

Input: -3

Output:

Negative Number

Test case 3: Neither Positive nor Negative

Input: 0

Output:

Neither positive nor negative.

1.4 Different range of values & test cases (Switch)
Analyze the working of switch with different range of values and test cases.

Program: C

```
#include <stdio.h>
int main()
{
    int a, b;
    char c;

    printf("Enter choice\n");
    printf("a. Addition\n b. Subtraction\n\n");
    printf("c. Multiplication\n d. Division\n");
    scanf("%c", &c);

    printf("Enter 2 integers:");
    scanf("%d %d", &a, &b);

    switch (c)
    {
        case 'a': printf("%d + %d = %d\n", a, b, (a+b));
                  break;
        case 'b': printf("%d - %d = %d\n", a, b, (a-b));
                  break;
        case 'c': printf("%d x %d = %d\n", a, b, (a*b));
                  break;
        case 'd': printf("%d / %d = %d\n", a, b, (a/b));
                  break;
        default: printf("Entered wrong choice\n");
                 break;
    }
}
```

Test case 1: single character

Input:

Enter choice

a. Addition

b. Subtraction

c. Multiplication

d. Division

a

Enter 2 Integers: 25 65

Output:

25 + 65 = 90

Test case 2: Integer value

Input:

Enter choice

a. Addition

b. Subtraction

c. Multiplication

d. Division

5

Enter 2 Integers: 65 25

Output:

Entered wrong choice

1.4.1 Different range of values & testcases (for)
Analyse the working of for. with different range of values and test cases.

Programs Python

```
n = int(input('Enter value: '))
```

```
if n > 0:
```

```
    for i in range(1, n+1):
```

```
        print(i)
```

```
else:
```

```
    for j in range(n, 0, -1):
```

```
        print(j)
```

Test Case 1: Positive Range

Input:

Enter value: 5

Output:

1
2
3
4
5

Test Case 2: Negative Range

Input:

Enter value: -5

Output:

-5
-4
-3
-2
-1

Study