IARE

INSTITUTE OF AERONAUTICAL ENGINEERING

(An Autonomous Institute affiliated to JNTUH, Hyderabad)

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LABORATORY WORK BOOK

Name of the Student : HIMAKAR C

Class : CSE - B Semester : VI

Course Code : ACIC09 Course Name : SQAT Laboratory

Roll Number									
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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 / Performance in the Lab	Source Code / Calculations and Graphs	Program Execution / Results and Error Analysis	Viva - Voce	Total
			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)						
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 case2: Negative Range

-5 -> Input

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

1.2 Different range of values / test cases (while)

Analyse 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
```

ROLL 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 (or) 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
      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)

Analyze the working of for with different range of values and test cases.

Program: 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