



NUST CHIP DESIGN CENTRE

## C / C++ Programming

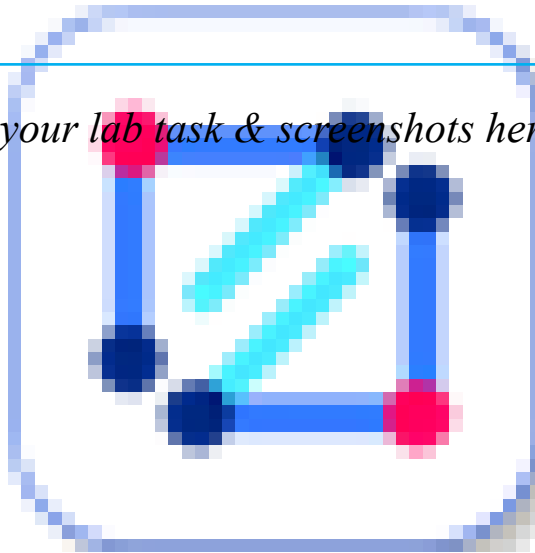
### Assignment # 2

## Basic Concepts in C++ Std vector & This pointer

<b><u>Name</u></b>	<i><u>Muddassir Ali Siddiqui</u></i>
<b><u>Instructor</u></b>	<i><u>Hira Sohail</u></i>
<b><u>Date</u></b>	<i><u>23<sup>th</sup> July 2025</u></i>

**1. In-Lab Tasks:** (*Write your lab task & screenshots here*)

**i. Task 1:**



```
muddassir@Latitude-E7440:~/Downloads/codes$ ./task1
```

```
Student Record Management System
```

```
Press 1. Add student
```

```
Press 2. Display All students
```

```
Press 3. Search student by Roll Number
```

```
Press 4. Update Marks
```

```
Press 5. Sort students by Average Marks
```

```
Press 6. Exit
```

```
Enter your choice: 1
```

```
Enter student name: Muddassir
```

```
Enter roll number: 07
```

```
Enter number of subjects: 5
```

```
Enter marks for 5 subjects:
```

```
78
```

```
87
```

```
79
```

```
82
```

```
80
```

```
Student added successfully!
```

```
Student Record Management System
```

```
Press 1. Add student
```

```
Press 2. Display All students
```

```
Press 3. Search student by Roll Number
```

```
Press 4. Update Marks
```

```
Press 5. Sort students by Average Marks
```

```
Press 6. Exit
```

```
Enter your choice: 1
```

```
Enter student name: Ali
```

```
Enter roll number: 10
```

```
Enter number of subjects: 5
```

```
Enter marks for 5 subjects:
```

```
79
```

```
87
```

```
89
```

```
88
```

```
90
Student added successfully!

Student Record Management System
Press 1. Add student
Press 2. Display All students
Press 3. Search student by Roll Number
Press 4. Update Marks
Press 5. Sort students by Average Marks
Press 6. Exit
Enter your choice: 2
Name: Muddassir
Roll Number: 7
Marks: 78 87 79 82 80
Average Marks: 81.2
-----
Name: Ali
Roll Number: 10
Marks: 79 87 89 88 90
Average Marks: 86.6
-----


Student Record Management System
Press 1. Add student
Press 2. Display All students
Press 3. Search student by Roll Number
Press 4. Update Marks
Press 5. Sort students by Average Marks
Press 6. Exit
Enter your choice: 4
Enter roll number to update marks: 07
Enter new number of subjects: 5
Enter new marks:
78
90
92
993
```

```
Enter new marks:
78
90
92
993
0
Marks updated successfully!

Student Record Management System
Press 1. Add student
Press 2. Display All students
Press 3. Search student by Roll Number
Press 4. Update Marks
Press 5. Sort students by Average Marks
Press 6. Exit
Enter your choice: 2
Name: Muddassir
Roll Number: 7
Marks: 78 90 92 993 0
Average Marks: 250.6
-----
Name: Ali
Roll Number: 10
Marks: 79 87 89 88 90
Average Marks: 86.6
-----

Student Record Management System
Press 1. Add student
Press 2. Display All students
Press 3. Search student by Roll Number
Press 4. Update Marks
Press 5. Sort students by Average Marks
Press 6. Exit
Enter your choice: 6
Exiting...
muddassir@Latitude-E7440:~/Downloads/codes$
```

## ii. Task 2:



```
muddassir@Latitude-E7440:~/Downloads/codes$ g++ ass2_task2.cpp -o task2
muddassir@Latitude-E7440:~/Downloads/codes$ ./task2
Enter account holder name: Muddassir
Enter initial balance: 300000
Deposited $50000
Withdrew $10000

Account Holder: Muddassir
Current Balance: $340000
muddassir@Latitude-E7440:~/Downloads/codes$ ./task2
Enter account holder name: Ali Siddiqui
Enter initial balance: 50000
Deposited $50000
Withdrew $10000

Account Holder: Ali Siddiqui
Current Balance: $90000
muddassir@Latitude-E7440:~/Downloads/codes$
```