```
Command Prompt

C:\Users\Admin\Downloads>g++ prg_1.cpp -o prg_1

C:\Users\Admin\Downloads>prg_1

Hello World!
```

```
C:\Users\Admin\Downloads>g++ prg_2.cpp -o prg_2

C:\Users\Admin\Downloads>prg_2

0 1 2 3 4 5 6 7 8 9 10
```

```
Command Prompt

:\Users\Admin\Downloads>g++ prg_3.cpp -o prg_3

:\Users\Admin\Downloads>prg_3

nter the Row_Size (m) :: 2
nter the Column_Size (n) :: 2

nter values for Matrix_1 ->
nter the Value at (0,0): 1
nter the Value at (0,1): 2
nter the Value at (1,0): 3
nter the Value at (1,1): 4
latrix_1 is ->
  2
  4

nter values for Matrix_2 ->
nter the Value at (0,0): 9
nter the Value at (0,1): 8
nter the Value at (1,0): 7
nter the Value at (1,1): 6
latrix_2 is ->
  8
  6

ddition (Matrix_1 + Matrix_2) is ->
0 10
0 10

ubtraction (Matrix_1 - Matrix_2) is ->
  2
  4

ultiplication (Matrix_1 * Matrix_2) is ->
3 20
5 48
```

```
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> g++ prg_4.cpp -o prg_4
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> ./prg_4
Enter number of students whose details you want to enter :- 4
-------------Enter Student_1 Details-------------
Enter Name: Amit
Enter Branch: CSE
Enter Roll_Number: 116
Enter Age: 19
Enter marks of 5 subjects: 95 96 97 98 99
Amit has amazing performance :: 97%
-------------Enter Student_2 Details-------------
Enter Name: Gautam
Enter Branch: EEE
Enter Roll_Number: 139
Enter Age: 21
Enter marks of 5 subjects: 81 82 83 84 85
Gautam has done a good job :: 83%
-------------Enter Student_3 Details-------------
Enter Name: Ayush
Enter Branch: MBA
Enter Roll_Number: 105
Enter Age: 18
Enter marks of 5 subjects: 76 77 78 71 73
Ayush has decent marks :: 75%
-------------Enter Student_4 Details-------------
Enter Name: Raj
Enter Branch: AI&ML
Enter Roll_Number: 166
Enter Age: 22
Enter marks of 5 subjects: 01 02 03 04 05
Raj needs to work really hard :: 3%
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs>
```

```
PROBLEMS    OUTPUT    TERMINAL    PORTS    DEBUG CONSOLE                    >_ powershell  + ∨  ⊓  🗑  ···  ∨  X

PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> g++ prg_5.cpp -o prg_5
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> ./prg_5
Enter radius of CIRCLE (in decimal) :- 3.14
Area of Circle = 30.9748
Enter length & breadth of RECTANGLE (in decimal) :- 1.2345 9.8765
Area of Rectangle = 12.1925
Enter 3 sides of TRIANGLE (as integer) :- 116 148 027
Area of Triangle = 2565
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> _
```

```
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> g++ prg_6.cpp -o prg_6
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> ./prg_6

---------------------TIME_1---------------------
Press 1 to enter time in Hours
Press 2 to enter time in Minutes
Press 3 to enter time in Seconds
Enter your choice :- 2
Enter No. of Minutes :- 673

---------------------TIME_2---------------------
Press 1 to enter time in Hours
Press 2 to enter time in Minutes
Press 3 to enter time in Seconds
Enter your choice :- 3
Enter No. of Seconds :- 5647
Time (in format HOURS:MINUTES:SECONDS) -> 11:13:0
Time (in format HOURS:MINUTES:SECONDS) -> 1:34:7
Added Time (in format HOURS:MINUTES:SECONDS) -> 12:47:7
PS C:\Users\Admin\Downloads\B.Tech\Semester-3\#OOPs> _
```

```
Command Prompt

icrosoft Windows [Version 10.0.19045.3448]
c) Microsoft Corporation. All rights reserved.

:\Users\Admin>cd Amit

:\Users\Admin\Amit>g++ prg_7.cpp -o prg_7

:\Users\Admin\Amit>prg_7

ibonacci Series for 1st Object (upto 8 terms): 0, 1, 1, 2, 3, 5, 8, 13
--------------------------- COPY CONSTRUCTOR ---------------------------
ibonacci Series for 2nd Object (upto 8 terms): 0, 1, 1, 2, 3, 5, 8, 13


:\Users\Admin\Amit>
```

```
Command Prompt

icrosoft Windows [Version 10.0.19045.3448]
c) Microsoft Corporation. All rights reserved.

:\Users\Admin>cd Amit

:\Users\Admin\Amit>g++ prg_8.cpp -o prg_8

:\Users\Admin\Amit>prg_8

um of (0 + i0), (9 + i9) & (15 + i34) = (24 + i43)

:\Users\Admin\Amit>_
```

```
Microsoft Windows [Version 10.0.19045.3570]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>cd Amit

C:\Users\Admin\Amit>g++ prg_9.cpp -o prg_9

C:\Users\Admin\Amit>prg_9
116 > 105
7 < 9
77 = 77
```

```
Command Prompt

C:\Users\Admin\Amit>g++ prg_10.cpp -o prg_10

C:\Users\Admin\Amit>prg_10

Greatest among (84, 74 & 94) is -> 94
Greatest among (3, 1 & 2) is -> 3
Greatest among (116, 145 & 105) is -> 145
```

```
C:\Users\Admin\Amit>g++ prg_11.cpp -o prg_11

C:\Users\Admin\Amit>prg_11

------------- The first_number is :: 123 ------------
------------- The second_number is :: 987 -----------

------------- Sum of 123 & 987 is :: 1110 -----------
```

```
Command Prompt

C:\Users\Admin\Amit>g++ prg_12.cpp -o prg_12

C:\Users\Admin\Amit>prg_12
1st String (s1): Atul
2nd String (s2):  Singhal
3rd String (s3 after assignment): Atul
Concatenated String: Atul Singhal
Atul is < or = to  Singhal

C:\Users\Admin\Amit>g++ prg_12.cpp -o prg_12

C:\Users\Admin\Amit>prg_12
1st String (s1): Atul Kumar
2nd String (s2):  Singhal
3rd String (s3 after assignment): Atul Kumar
Concatenated String: Atul Kumar Singhal
Atul Kumar is >  Singhal
```

```
Command Prompt

C:\Users\Admin\Amit>g++ prg_13.cpp -o prg_13

C:\Users\Admin\Amit>prg_13

length of the string Amit Singhal is -> 12
---------- Converted to UPPERCASE ----------
AMIT SINGHAL
---------- Converted to lowercase ----------
amit singhal
```

```
:\Users\Admin\Amit_Singhal_11614802722>g++ prg_14.cpp -o prg_14

:\Users\Admin\Amit_Singhal_11614802722>prg_14

verloading new operator with size -> 28
lame of Student: Amit Singhal
ge of Student: 12
verloading delete operator -> MEMORY DEALLOCATED
```

```
:\Users\Admin\Amit_Singhal_11614802722>g++ prg_15.cpp -o prg_15

:\Users\Admin\Amit_Singhal_11614802722>prg_15

-------- Before increment ----------
 = 3
--------- After (++)pre-increment ----------
1 | i = 4
2 | i = 4
--------- After post-increment(++) ----------
1 | i = 5
3 | i = 4
```

```
Command Prompt

C:\Users\Admin\Amit_Singhal_11614802722>g++ prg_16.cpp -o prg_16

C:\Users\Admin\Amit_Singhal_11614802722>prg_16

-------------- Enter information --------------
Enter name :: Amit Singhal
Enter roll number :: 11614802722
Enter sex :: M
Enter height (in cm) :: 132.5
Enter weight (in kg) :: 59.8

--------------Information --------------
Name -> Amit Singhal
Roll Number -> 11614802722
Sex -> M
Height -> 132.5 cm
Weight -> 59.8 kg
```

```
Command Prompt

:\Users\Admin\Amit_Singhal_11614802722>g++ prg_17.cpp -o prg_17

:\Users\Admin\Amit_Singhal_11614802722>prg_17

---------------- Enter details for book_1 ------------------
nter book number: 116
nter book name: OOPs
nter author name: Amit
nter publisher: Times of India
nter number of pages: 345
nter year of publication: 2003

---------------- Enter details for book_2 ------------------
nter book number: 105
nter book name: DSA
nter author name: Rakshit
nter publisher: DoorDarshan
nter number of pages: 999
nter year of publication: 1947

------------- Displaying information for all books -------------

ook 1 details -->
ook Number: 116
ook Name: OOPs
uthor Name: Amit
ublisher: Times of India
umber of Pages: 345
ear of Publication: 2003

ook 2 details -->
ook Number: 105
ook Name: DSA
uthor Name: Rakshit
ublisher: DoorDarshan
umber of Pages: 999
ear of Publication: 1947
```

```
Command Prompt

:\Users\Admin\Amit_Singhal_11614802722>g++ prg_18.cpp -o prg_18

:\Users\Admin\Amit_Singhal_11614802722>prg_18

------------------------------ Enter Student Information ------------------------------
nter Roll No: 116
nter Name: Amit
nter Marks for 6 Subjects:
ubject 1: 91
ubject 2: 92
ubject 3: 93
ubject 4: 94
ubject 5: 95
ubject 6: 96

------------------------------ Displaying Student Result ------------------------------
oll No: 116
ame: Amit
arks in 6 Subjects:
ubject 1: 91
ubject 2: 92
ubject 3: 93
ubject 4: 94
ubject 5: 95
ubject 6: 96
                              Total Marks :: 561
```

```
::\Users\Admin\Amit_Singhal_11614802722>g++ prg_19.cpp -o prg_19

::\Users\Admin\Amit_Singhal_11614802722>prg_19
--------- Menu Driven Program ----------
nter (1) for Triangle
nter (2) for Rectangle
nter your choice :: 2
nter length -> 45.678
nter width -> 23.987
rea of Rectangle is :: 1095.68

::\Users\Admin\Amit_Singhal_11614802722>prg_19
--------- Menu Driven Program ----------
nter (1) for Triangle
nter (2) for Rectangle
nter your choice :: 1
nter length -> 99.999
nter width -> 1023.234567
rea of Triangle is :: 51161.2

::\Users\Admin\Amit_Singhal_11614802722>prg_19
--------- Menu Driven Program ----------
nter (1) for Triangle
nter (2) for Rectangle
nter your choice :: 0
nvalid choice. Exiting...
```

```
Command Prompt

Microsoft Windows [Version 10.0.19045.3693]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>cd Amit_Singhal

C:\Users\Admin\Amit_Singhal>g++ prg_20.cpp -o prg_20

C:\Users\Admin\Amit_Singhal>prg_20

Stored in stack.
Retrieved from stack.
Stored in queue.
Retrieved from queue.
```

```
PS C:\Users\mait\Desktop\DS Lab 27 sept> cd "c:\Users\mait\Downloads\" ; if ($?) { g++ prg_21.cpp -o prg_21 } ; if ($?) { .\prg_21 }
Square of 5 is: 25
Square of 2.5 is: 6.25
PS C:\Users\mait\Downloads>
```

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS C:\Users\mait\Downloads> g++ prg_22.cpp -o prg_22
PS C:\Users\mait\Downloads> .\prg_22
-------------------- Amit Singhal - 11614802722 (3C7) --------------------------
Object created with values: 10 and 20
Greater number is: 20
Object created with values: 3.14 and 2.718
Greater number is: 3.14
Object destroyed.
Object destroyed.
```

input – Notepad

File Edit Format View Help

The
quick brown
fox jumps over
the   lazy   dog

```
C:\Users\Admin\Amit_116>g++ prg_23.cpp -o prg_23

C:\Users\Admin\Amit_116>prg_23

White spaces removed and content saved to: output.txt
```

output – Notepad

File Edit Format View Help

Thequickbrownfoxjumpsoverthelazydog

:\Users\Admin\Amit_116>g++ prg_24.cpp -o prg_24

:\Users\Admin\Amit_116>prg_24
nter name: Amit
nter age: 19
nter sex (M/F): M
nter height (in meters): 1.35
nter weight (in kilograms): 67

tudent Information read from file:
ame: Amit
ge: 19
ex: M
eight: 1.35 meters
eight: 67 kilograms

> Amit_116

Name

prg_24
prg_24
student_info

student_info - Notepad

File   Edit   Format   View   Help

Amit 19 M 1.35 67

```
Command Prompt

C:\Users\Admin\Amit_116>g++ prg_25.cpp -o prg_25

C:\Users\Admin\Amit_116>prg_25

Element at index 2: 3

Exception caught: Given Index is Out of bounds
```