| 1. | Write a C++ program to read and print students using simple inheritance |
| --- | --- |
| Sample Input | Enter student's basic information:  Name?: Mickey  Age?: 26  Gender?: F  Enter student's result information:  Total Marks?: 455  Grade?: A |
| Sample Output | Name: Mickey,Age: 26,Gender: F  Total Marks: 455,Percentage: 91,Grade: A |
| Test Case | 1. Enter student's basic information:  Name?: 123Raja  Age?: 26  Gender?: F  Enter student's result information:  Total Marks?: 455  Grade?: A |
| 2. Enter student's basic information:  Name?: Mickey  Age?: aba  Gender?: F  Enter student's result information:  Total Marks?: 455  Grade?: A |
| 3. Enter student's basic information:  Name?: Mickey  Age?: 26  Gender?: F  Enter student's result information:  Total Marks?: 600  Grade?: A |
| 4. Enter student's basic information:  Name?: Mickey  Age?: 26  Gender?: F  Enter student's result information:  Total Marks?: 455  Grade?: M |
| 5. Enter student's basic information:  Name?: Mickey  Age?: 26  Gender?: Z  Enter student's result information:  Total Marks?: 455  Grade?: A |

| 2. | C++ program to demonstrate example of private simple inheritance |
| --- | --- |
| Sample Input | value of x: 10 |
| Sample Output | Here x is the protected data member of class A, class A is inherited privately to class B. In private inheritance only protected data member and member functions can be accessed by the derived class. |
| Test Case | 1. 100 |
| 2. 10.56 |
| 3. ABM |
| 4. 12ch |
| 5. cb$$98 |

| 3. | Program to demonstrate multiple inheritance in c++ |
| --- | --- |
| Sample Input | Input given in the program itself. |
| Sample Output | value of a: 100  value of b: 200  value of c: 300 |
| Test Case | 1. 50  30  45 |
| 2. 1.5  10.56  400 |
| 3. ABC  100  120 |
| 4. 78.96  89.92  45.56 |
| 5. ab123  123$$c  10 |

| 4. | Build a C++ code to print the address of the variable. |
| --- | --- |
| Sample Input | Input given in the program itself |
| Sample Output | Address of var1: 0x7fff5fbff8ac  Address of var2: 0x7fff5fbff8a8  Address of var3: 0x7fff5fbff8a4 |

| 5. | Write a C++ code to find area of square and circle using abstract class and pure virtual function |
| --- | --- |
| Sample Input | Enter radius of the circle: 5  Enter the length of the square: 4 |
| Sample Output | Area of square: 16  Area of circle: 78.5 |
| Test Case | 1.Enter radius of the circle: 120  Enter the length of the square: 56 |
| 2.Enter radius of the circle: 17.56  Enter the length of the square: 55.23 |
| 3.Enter radius of the circle: ab  Enter the length of the square: 56 |
| 4.Enter radius of the circle: 75  Enter the length of the square: ghj |
| 5.Enter radius of the circle: abc123  Enter the length of the square: 56 |

| 6. | C++ Program that illustrates how to use ‘this’ pointer. |
| --- | --- |
| Sample Input | The input given in the program itself |
| Sample Output | x = 20 |

| 7. | C++ Program to to display address of each element of an array |
| --- | --- |
| Sample Input | No input is needed |
| Sample Output | Displaying address using arrays:  &arr[0] = 0x61fef0  &arr[1] = 0x61fef4  &arr[2] = 0x61fef8  Displaying address using pointers:  ptr + 0 = 0x61fef0  ptr + 1 = 0x61fef4  ptr + 2 = 0x61fef8 |

| 8. | Write a C++ program to find the sum of two numbers using the concept of C++ multiple inheritance. |
| --- | --- |
| Sample Input | enter value of x: 5  enter value of y: 4 |
| Sample Output | Sum = 9 |
| Test Case | 1.enter value of x: 56  enter value of y:86 |
| 2..enter value of x: 5.5  enter value of y: 7.2 |
| 3.enter value of x: wer  enter value of y: 7.2 |
| 4.enter value of x: 5.5  enter value of y: klm |
| 5.enter value of x: 56.8974  enter value of y: 75.5698 |

| 9. | Build a C++ code to find the area of a rectangle using the concept of array of objects. |
| --- | --- |
| Sample Input | Given in program itself |
| Sample Output | 28  20 |

| 10. | C++ code to print the given values in program using pointer to object |
| --- | --- |
| Sample Input | 1,54 |
| Sample Output | The real part is 1  The imaginary part is 54 |
| Test Case | 1.22,36 |
| 2. 45.56,78.98 |
| 3. abc,36.96 |
| 4.100,256 |
| 5. 78.96,vbn |