**Lab Tasks:**

1. **Write a code in C++ that takes radius of a circle as input from user and outputs the circumference and area. The output should be clear and readable. Add proper comments to the code. You can set the value of π up to 3 decimal places**

| Solution |
| --- |
| Paste your code here:  //Question No 1 Lab task  #include <iostream>  using namespace std;  int main() {  cout << "Enter Radius "; // Enter Value of Radius.  float radius, circumference, area; // Declaring Variables.  cin >> radius; // Taking Input from the user.  circumference = radius \* 2 \* 3.14; // Declaring Circumference Formula.  area = 3.14 \* (radius \* radius); // Declaring Area Formula.  cout << "Circumference of Circle= " << circumference << "\n"; // Output in Circumference.  cout << "Area of Circle= " << area << "\n"; // Output in Area.  return 0;  } |
| Output: |

1. **Write a code in C++ that takes values of a and b from the user and displays result of polynomial 𝑎 2 + 2𝑎𝑏 + 𝑏 2.**

| Solution |
| --- |
| Paste your code here:  //⦁ Write a code in C++ that takes values of a and b from the user and displays result of polynomial 𝑎 2 + 2𝑎𝑏 + 𝑏 2.  #include <iostream>  using namespace std;  int main() {  float a, b;  cout << "Enter Value of a " << '\n';  cin >> a;  cout << "Enter value of b " << '\n';  cin >> b;  float c = a \* a + 2 \* a \* b + b \* b;  cout << "Result " << c << '\n';  return 0;} |
| Output: |

1. **Write a program that asks the user to enter a value for x and then displays the value of the following polynomial 2x^5+3x^4-x^3-2x^2+7x-6. To calculate x^5 you will have to use pow(x, 5).**

| Solution |
| --- |
| Paste your code here:  #include <cmath>  #include <iostream>  using namespace std;  int main() {  float x;  cout << "Enter value for X " << '\n';  cin >> x;  float y = 2 \* pow(x, 5) + 3 \* pow(x, 4) - pow(x, 3) - 2 \* pow(x, 2) + 7 \* x - 6;  cout << "Answer = " << y << '\n';  return 0;  } |
| Output: |

1. **Take two complex number from user and add them. Print the resultant complex number.**

| Solution |
| --- |
| Paste your code here:  #include <iostream>  using namespace std;  int main() {  int realA{}, imgA{}, realB{}, imgB{};  cout << "Enter First Real Number: " << '\n';  cin >> realA;  cout << "Enter First Imaginary Number: " << '\n';    cin >> imgA;  cout << "Enter Second Real Number: " << '\n';  cin >> realB;  cout << "Enter Second Imaginary Number: " << '\n';    cin >> imgB;  int realSum = realA + realB;  int imgSum = imgA + imgB;  cout << "\n" << realA << " + " << imgA << "i + " << realB << " + "  << imgB << "i = " << realSum << " + " << imgSum << "i\n";  return 0;  } |
| Output: |

1. **Write a code in C++ to take one value in integer datatype and second value in float datatype from user now add both values. Print both values in float datatype and their sum in integer.**

| Solution |
| --- |
| Paste your code here:  #include <iostream>  using namespace std;  int main() {  int firstValue;  cout << "Enter an Integer: ";  cin >> firstValue;  float secondValue;  cout << "Enter a Float Value: ";  cin >> secondValue;  int sum = firstValue + secondValue;  cout << "First Value: " << (float)firstValue << '\n';  cout << "Second Value: " << (float)secondValue <<'\n';  cout << " Sum = " << sum << "\n";  return 0;  } |
| Output: |

1. **Write a code in C++ to take integer values, divide them and print answer with decimal points.**

| Solution |
| --- |
| Paste your code here:  #include <iostream>  using namespace std;  int main() {  int a, b;  cout << "Enter First Integer: ";  cin >> a;  cout << "Enter Second Integer: ";  cin >> b;  cout << "Results: ";  cout << '\n' << a << " / " << b << " = " << (float)a / (float)b << "\n";  return 0;  } |
| Output: |

**Home Tasks:**

1. **Write a program to calculate the distance between two points using distance formula when coordinates of both the points are input by user**

| Solution |
| --- |
| Paste your code here: |
| Output: |
| Written Proof: |

1. **Write a code in C++ to take length from user in centimeter and convert it into meter and kilometer.**

| Solution |
| --- |
| Paste your code here: |
| Output: |

1. **Write a code in C++ to enter P, T, R and calculate Simple Interest.**

| Solution |
| --- |
| Paste your code here: |
| Output: |

1. **Write a code in C++ to enter P, T, R and calculate Simple Interest.**

| Solution |
| --- |
| Paste your code here: |
| Output: |

1. **Write a code in C++ to enter P, T, R and calculate Simple Interest.**

| Solution |
| --- |
| Paste your code here: |
| Output: |