GALGOTIAS UNIVERSITY

Plot No.2, Sector -17 A, Yamuna Expressway,

Greater Noida, Gautam Buddh Nagar, U.P., India

SCHOOL OF COMPUTING SCIENCE & ENGINEERING

Assignment :- 1

Course Name: Object oriented programming

Course Code: BCS01T1006

School: SCSE

Program: B.Tech

Year: 1st semester: 2nd

Session: 2021-2022

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| Submitted By: | Submitted To: |
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| **Ex. No.: 1(a)** | | **Date: 07-04-2022** |
| **Experiment Heading** | | |
| **Aim:**  **Write a c++ program to find reverse of given number using “While loop”.** | | |
| **Program:**  #include<iostream>  using namespace std;  int main()  {        /\* write a c++ program to find reverse of given number.....using while loop \*/      int i,rev=0;      cout<<"enter the number to find reverse"<<endl;      cin>>i;      while (i>0)      {          rev=(rev\*10)+i %10;          i=i/10;      }      cout<<"reverse="<<rev;      return 0;    } | | |
| **Output:**  enter the number to find reverse  6545  reverse=6reverse=65reverse=654reverse=6545  PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college> | | |
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| **Ex. No.: 1(b)** | **Date: 07**/04/2022 | | |
| **Experiment Heading** | | | |
| **Aim:**  Write a c++ program to find the Fibonacci series “using for loop”. | | | |
| **Program:**  #include<iostream>  using namespace std;  int main()  {      /\* write a c++ program to find the fibonacci series......using for loop \*/      int n,x,y,z;      cout<<"Enter the number as you want to print max fibonacci series"<<endl;      cin>>n;      x=0,y=1;      for (int z = 0; z <= n; z=x+y)      {          cout<<z<<endl;          x=y;          y=z;      }            return 0; | | | |
| **Output:**  Enter the number as you want to print max fibonacci series  20  0  1  1  2  3  5  8  13  PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college> | | | |

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| **Ex. No.: 1(c)** | **Date: 07**/04/2022 |
| **Experiment Heading** | |
| **Aim: IF statement**  Write a c++ program to find Root of the quadratic equation “ax^2+bx+c=0”……..(using If statement) | |
| **Program:**  // write a c++ program to find Root of the quadratic equation ax^2+bx+c=0 //  #include<iostream>  #include<math.h>  using namespace std;  int main()  {      int a,b,c; // ax^2+bx+c=0 //      float r1,r2,desc,d;      cout<<"Enter the coefficent of quadratic equation";      cin>>a>>b>>c;      desc=(b\*b)-(4\*a\*c);      d=2\*a;      if (desc>0) // when desc greter than 0 then roots are unequal and real//      {          cout<<"Roots are real and unequal\n";          r1=(-b+sqrt(desc))/d;          r2=(-b-sqrt(desc))/d;          cout<<"endl<<Root1="<<r1;          cout<<"endl<<Root2="<<r2;      }      else if(desc==0) //when desc = 0, then roots are equal and real //      {          cout<<"Root are real and equal\n";          r1=-b/d;          r2=-b/d;          cout<<"endl<<Root1="<<r1;          cout<<"endl<<Root2="<<r2;      }      else // when desc is less than 0, then roots are imaginary //      {          cout<<"Roots are imaginary";      }        return 0;      } | |
| **Output:**  Enter the coefficent of quadratic equation  2  1  2  Roots are imaginary  PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college> | |

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| **Ex. No.: 1(d)** | **Date: 07**/04/2022 |
| **Experiment Heading** | |
| **Aim: Switch case statement**  Write a c++ program to build a simple calculator using “Switch case” | |
| **Program:**  #include <iostream>  using namespace std;  int main() {      char oper;      float num1, num2;      cout << "Enter an operator (+, -, \*, /): ";      cin >> oper;      cout << "Enter two numbers: " << endl;      cin >> num1 >> num2;      switch (oper) {          case '+':              cout << num1 << " + " << num2 << " = " << num1 + num2;              break;          case '-':              cout << num1 << " - " << num2 << " = " << num1 - num2;              break;          case '\*':              cout << num1 << " \* " << num2 << " = " << num1 \* num2;              break;          case '/':              cout << num1 << " / " << num2 << " = " << num1 / num2;              break;          default:              // operator is doesn't match any case constant (+, -, \*, /)              cout << "Error! The operator is not correct";              break;      }      return 0;  } | |
| **Output:**  Enter an operator (+, -, \*, /): +  Enter two numbers:  4.6  5.6  4.6 + 5.6 = 10.2  PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college> | |

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| **Ex. No.: 2** | **Date: 07**/04/2022 |
| **Experiment Heading** | |
| **Aim:**  //Write a program explaining various access modifiers.//  Write a c++ program for Public Access modifier. | |
| **Program:**  #include <iostream>  using namespace std;  // define a class  class Sample {      // public elements     public:      int age;      void displayAge() {          cout << "Age = " << age << endl;      }  };  int main() {      // declare a class object      Sample obj1;      cout << "Enter your age: ";      // store input in age of the obj1 object      cin >> obj1.age;      // call class function      obj1.displayAge();      return 0;  } | |
| **Output:**  Enter your age: 20  Age = 20  PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college> | |
| **Ex. No.: 2** | **Date: 07**/04/2022 |
| **Experiment Heading** | |
| **Aim:**  //Write a program explaining various access modifiers.//  Write a c++ program for Private Access modifier | |
| **Program:**  #include <iostream>  using namespace std;  // define a class  class Sample {      // private elements     private:      int age;      // public elements     public:      void displayAge(int a) {          age = a;          cout << "Age = " << age << endl;      }  };  int main() {      int ageInput;      // declare an object      Sample obj1;      cout << "Enter your age: ";      cin >> ageInput;      // call function and pass ageInput as argument      obj1.displayAge(ageInput);      return 0;  } | |
| **Output:** **Enter your age: 50**  **Age = 50**  **PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college>** | |
| **Ex. No.: 2** | **Date: 07**/04/2022 |
| **Experiment Heading** | |
| **Aim:**  //Write a program explaining various access modifiers.// Write a c++ program for Protected Access Specifier. | |
| **Program:**  #include <iostream>  using namespace std;  // declare parent class  class Sample {      // protected elements     protected:      int age;  };  // declare child class  class SampleChild : public Sample {     public:      void displayAge(int a) {          age = a;          cout << "Age = " << age << endl;      }  };  int main() {      int ageInput;      // declare object of child class      SampleChild child;      cout << "Enter your age: ";      cin >> ageInput;      // call child class function      // pass ageInput as argument      child.displayAge(ageInput);      return 0;  } | |
| **Output:**  Enter your age: 16  Age = 16  PS E:\ALL PROGRAMING LANGUAGE\C++\C++\_galgotias\_college> | |