**30-DAYS-OF-CODE**

**DAY-1 TO 5**

**DAY 1-25/04/22**: Basic question on Array/String

**DAY 2-26/04/22:** Variables/Data Types/Operators

**DAY 3-27/04/22:** Operators/Selection Statements

**DAY 4-28/04/22:** Selection Statements

**DAY 5-29/04/22:** Selection Statements/Loops

**QUESTIONS**

1. Program to find the greatest of three numbers using conditional operator
2. Program to find whether the given number is an even number or an odd number
3. Program to accept a coordinate point in an XY coordinate system and determine in which quadrant the coordinate point lies.
4. Program to calculate the root of a Quadratic Equation
5. Program to check whether an alphabet is a vowel or consonant
6. Write a Menu-Driven Program to perform simple calculations including addition, subtraction, multiplying, and dividing.

**ANSWERS**

*Answer 1.*

#include<iostream>

using namespace std;

int main() {

    int a, b, c, largest;

    cout<<"Enter three numbers: ";

    cin>>a>>b>>c;

    largest = a > b ? (a > c ? a : c) : (b > c ? b : c) ;

    cout<<"The largest number is: "<<largest<<endl;

}

*Answer 2.*

Approach 1. Using ternary or conditional operator

#include <iostream>

using namespace std;

int main() {

  int n;

  cout << "Enter an integer: ";

  cin >> n;

  (n % 2 == 0) ? cout << n << " is even." :  cout << n << " is odd.";

  return 0;

}

Approach 2. Using if-else statement

#include <iostream>

using namespace std;

int main() {

  int n;

  cout << "Enter an integer: ";

  cin >> n;

  if ( n % 2 == 0)

    cout << n << " is even.";

  else

    cout << n << " is odd.";

  return 0;

}

*Answer 3.*

#include<iostream>

using namespace std;

int main()

{

    int x,y;

    cout<<"Enter two points: ";

    cin>>x>>y;

    if(x>0 && y>0)

        cout<<x<<" & "<<y<<" lies in the first quadrant.";

    else if(x<0 && y>0)

        cout<<x<<" & "<<y<<" lies in the second quadrant.";

    else if(x<0 && y<0)

        cout<<x<<" & "<<y<<" lies in the third quadrant.";

    else if(x>0 && y<0)

        cout<<x<<" & "<<y<<" lies in the fourth quadrant.";

    else

        cout<<x<<" & "<<y<<" lies at the origin.";

}

*Answer 4.*

#include <iostream>

#include <cmath>

using namespace std;

int main() {

    float a, b, c, x1, x2, discriminant, realPart, imaginaryPart;

    cout << "Enter coefficients a, b and c: ";

    cin >> a >> b >> c;

    discriminant = b\*b - 4\*a\*c;

    if (discriminant > 0) {

        x1 = (-b + sqrt(discriminant)) / (2\*a);

        x2 = (-b - sqrt(discriminant)) / (2\*a);

        cout << "Roots are real and different." << endl;

        cout << "x1 = " << x1 << endl;

        cout << "x2 = " << x2 << endl;

    }

    else if (discriminant == 0) {

        cout << "Roots are real and same." << endl;

        x1 = -b/(2\*a);

        cout << "x1 = x2 =" << x1 << endl;

    }

    else {

        realPart = -b/(2\*a);

        imaginaryPart =sqrt(-discriminant)/(2\*a);

        cout << "Roots are complex and different."  << endl;

        cout << "x1 = " << realPart << "+" << imaginaryPart << "i" << endl;

        cout << "x2 = " << realPart << "-" << imaginaryPart << "i" << endl;

    }

    return 0;

}

*Answer 5.*

#include <iostream>

using namespace std;

int main() {

   char c;

   cout<<"Enter a character: ";

   cin>>c;

   if (c == 'a' || c == 'e' || c == 'i' || c == 'o' || c == 'u' )

   cout <<c<< " is a Vowel" << endl;

   else if (c == 'A' || c == 'E' || c == 'I' || c == 'O' || c == 'U' )

   cout <<c<< " is a Vowel" << endl;

   else

   cout <<c<< " is a Consonant" << endl;

   return 0;

}

*Answer 6.*

# include <iostream>

using namespace std;

int main() {

  char op;

  float num1, num2;

  cout << "Enter operator: +, -, \*, /: ";

  cin >> op;

  cout << "Enter two operands: ";

  cin >> num1 >> num2;

  switch(op) {

    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:

      cout << "Error! operator is not correct";

      break;

  }

  return 0;

}