

Assignment - 2 | By: Syed Ammar Ahmed, 03312049042

Source Code:

```
// Assignment # 2
// Made by: Syed Ammar Ahmed, 03312049042

void main() {
    print("Assignment # 2");
    print("By: Syed Ammar Ahmed, 03312049042");

    // Task # 1
    print('\nTask # 1.1');
    print('-----');
    // Take XY coordinate and determine in which quadrant the coordinate point lies.

    double x = 0;
    double y = -4;

    print("x = $x");
    print("y = $y");
    determineQuadrant(x, y);

    print('\nTask # 1.2');
    print('-----');
    // Take three numbers and find a maximum between three numbers.

    double num1, num2, num3;

    num1 = 012.5;
    num2 = 12.2;
    num3 = 12.7;

    double max = findMax(num1, num2, num3);

    print('The maximum number among $num1, $num2, and $num3 is $max');
```

```
// Task # 2
print('\nTask # 2.1');
print('-----');
// Print the multiplication table of a number till 10.

int tableOf = 4;

for (int i = 1; i <= 10; i++) {
    print('$tableOf x $i = ${tableOf * i}');
}

print('\nTask # 2.2');
print('-----');
// Calculate the sum of first 20 Odd numbers.

int oddSum = 0;

for (int i = 1; i <= 20; i++) {
    if (i % 2 != 0) {
        oddSum += i;
    }
}

print("Sum of Odd Numbers till 20: $oddSum");

print('\nTask # 2.3');
print('-----');
// Calculate the factorial of a number.

int num = 5;
int factorial = 1;
int loopNum = num;

for (int i = 1; i <= loopNum; loopNum--) {
    factorial *= loopNum;
}
print("The factorial of $num is $factorial");
```

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print('\nTask # 2.4');
print('-----');
// Check if the given number is prime or composite.
int number = -1;

// Check if the number is prime or composite
if (isPrime(number)) {
    print('$number is a prime number.');
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} else {
    print('$number is a composite number.');
```

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}
}

void determineQuadrant(double x, double y) {
    if (x > 0 && y > 0) {
        print("The point is in Quadrant 1.");
    } else if (x < 0 && y > 0) {
        print("The point is in Quadrant 2.");
    } else if (x < 0 && y < 0) {
        print("The point is in Quadrant 3.");
    } else if (x > 0 && y < 0) {
        print("The point is in Quadrant 4.");
    } else if (x == 0 && y != 0) {
        print("The point lies on the y-axis.");
    } else if (x != 0 && y == 0) {
        print("The point lies on the x-axis.");
    } else if (x == 0 && y == 0) {
        print("The point is at the origin.");
    }
}

// functions
double findMax(a, b, c) {
    double high = 0;
    if (a > b && a > c) {
        high = a;
    } else if (b > c && b > a) {
        high = b;
    }
}

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    } else if (c > a && c > b) {
        high = c;
    }

    return high;
}

bool isPrime(int num) {
    if (num <= 1) {
        return false;
    }

    for (int i = 2; i <= num / 2; i++) {
        if (num % i == 0) {
            return false;
        }
    }

    return true;
}

```

Code Output:

Assignment # 2

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Task # 1.1

x = 0

y = -4

The point lies on the y-axis.

Task # 1.2

The maximum number among 12.5, 12.2, and 12.7 is 12.7

Task # 2.1

4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40

Task # 2.2

Sum of Odd Numbers till 20: 100

Task # 2.3

The factorial of 5 is 120

Task # 2.4

-1 is a composite number.