

Implementation of a rudimentary 'C' code snippets

Implement C programs for the following problem statements:

a) Sine Series: Write a program that accepts x, and a number n (n = 5) and computes sin(x) using the sine series up to first n terms.

```
#include <stdio.h>
int main()
{
    int i, j, n=5, fact, sign = - 1;
    float x, p, sum = 0;
    float radianx=0;
    printf("Enter the value of x : ");
    scanf("%f", &x);
    radianx = x*3.14159/180.0;
    for (i = 1; i <= n; i++)
    {
        p = 1;
        fact = 1;
        for (j = 1; j <= i; j++)
        {
            fact = fact * j;
        }
        p=pow(radianx,i);
        sign = - 1 * sign;
        sum += sign * p / fact;
    }
    printf("sin %f = %.2f", x, sum);
    return 0;
}
```

b) Second Largest: Input 5 integers, and display the second largest number.

```
#include <stdio.h>

int main() {
    int array[5];
    int i, first=0, second=0;

    for(i = 0; i < 5; i++)
    {
        scanf("%d", &array[i]);

        printf ("enter value of any number: %d \n", array[i]);
    }
    //first = array[0];
    for(i = 0; i < 5; i++)
    {
        if( first < array[i] )
        {
            second = first;
            first = array[i];
        }
        else if( second < array[i] )
```

```

    {
        second = array[i];
    }
}

printf("Second largest number is: %d \n", second);

return 0;
}

```

c) Reversing a number: Input a four-digit number 'x' and print its digits in the reverse order.

```

#include <stdio.h>

int main() {
    int n, rev = 0, remainder;
    printf("Enter an integer: ");
    scanf("%d", &n);

    while (n != 0)
    {
        remainder = n % 10;
        rev = rev * 10 + remainder;
        n /= 10;
    }
}

```

```

    }
    printf("Reversed number = %d", rev);
    return 0;
}

```

d) Division: Input a 4-digit number 'x' and check if it is divisible by one or more of the following seed numbers 2, 3, 4 and 12 or not. Use an effective strategy that inspects digits.

```

#include <stdio.h>
int main()
{
    int num, i, flag =0;
    printf("Enter any 4 digit number: ");
    scanf("%d", &num);
    if ((num<1000) || (num>9999) )
    {
        printf("< %d > is not a 4 digit number", num);
        return 0;
    }
    int array[4] = {2,3,4,12};
    for (i=0;i<4; i++)
    {
        if (num % array[i] == 0)
        {
            printf("< %d > is seed number\n", array[i]);
            flag = 1;
        }
    }
    if (flag==0)
        printf("Number is not divisible by any seed number");

    return 0;
}

```

