PROGRAMMING FUNDAMENTALS

Let's explore technology
together to live in the future

Checkout more on
https://github.com/Sy-hash-collab

Sy-hash-collab

Series programs exercise

Write a program in c ++ to calculate and display sum of following series

x + x^3 + x^5 ..... x^n

```
#include <iostream>
#include <cmath>
using namespace std;
int main() {
 double x, n, sum = 0.0;

   cout << "Enter the value of x: ";
   cin >> x;
   cout << "Enter the value of n: ";
   cin >> n;
   for (int i = 1; i <= n; i += 2) {
      sum += pow(x, i);
   }
 cout << "The sum of the series is: " << sum << endl;
   return 0;
}
```

Write a program in c ++ to calculate and display sum of following series

x + x^2 + x^4 ..... x^n

```
#include <iostream>
#include <cmath>
using namespace std;

int main() {
```

```
    int x, n;
    cout << "Enter the value of x: ";
    cin >> x;
    cout << "Enter the value of n: ";
    cin >> n;
 int sum = 0;
    for (int i = 1; i <= n; i *= 2) {
        sum += pow(x, i);
    }
 cout << "The sum of the series is: " << sum << endl;
    return 0;
}
```

Write a program in c ++ to calculate and display sum of following series

x + x^2/2 ! + x^3/3 !..... x^n/n

```
#include <iostream>
#include <cmath>
using namespace std;
int main()
{
    int n;
 double x, sum = 0.0, fact = 1.0;
    cout << "Enter the value of x: ";
    cin >> x;
    cout << "Enter the value of n: ";
    cin >> n;
    for (int i = 1; i <= n; i++)
    {
```

```
    fact *= i;
    sum += pow(x, i) / fact;
  }
 cout << "Sum of the series is " << sum << endl;
  return 0;
}
```

Write a program in c ++ to calculate and display sum of following series

1 + 1^2/2 + 1^3/3 ..... 1^n/n

```
#include <iostream>
#include <cmath>
using namespace std;
int main()
{
  int n;
 double sum = 0;
  cout << "Enter the value of n: ";
  cin >> n;
  for(int i = 1; i <= n; i++)
  {
    sum += pow(1, i ) /i;
  }
 cout << "The sum of the series is: " << sum << endl;
  return 0;
```

Write a program in c ++ to calculate and display sum of following series

(1* 1)+(2*2) .....(n*n)

```
#include <iostream>
```

```
using namespace std;

int main() {

int n, sum = 0;

cout << "Enter a positive integer: ";

cin >> n;

for (int i = 1; i <= n; i++) {

    sum += i * i;

  }

 cout << "The sum of the series (1*1)+(2*2)+...+(n*n) is: " << sum;

return 0;

}
```

Write a program in c ++ to calculate and display sum of following series

(1)+(1+2) ……(1+2+3+4….n)

```
#include <iostream>

using namespace std;

int main() {

int n;

cout << "Enter the value of n: ";

cin >> n;

int sum = 0;

int term_sum = 0;

for (int i = 1; i <= n; i++) {

term_sum += i;

sum += term_sum;

}

cout << "The sum of the series is: " << sum << endl;

return 0;
```

}

Write a program in c ++ to calculate and display sum of following series

1/2 +2/3 .....99/100

```
#include <iostream>
using namespace std;
int main()
{
   float sum = 0;
   for(int i = 1; i <= 99; i++)
   {
      sum += (float) i / (i+1);
   }
   cout << "The sum of the series is " << sum << endl;
   return 0;
}
```