

Digital assignment 2

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First question:

Write a c program to find the sum of the series $1! / 1+2! / 2+3! / 3+4! / 4+5! / 5 \dots n! / n$ by utilizing user defined recursive function? Get the value of n from the user. Do not use any storage classes. Without returning the calculated result from the function, display the result in main

Answer:

```
#include <stdio.h>
void sum_series(int n, float *sum);
int main() {
    int n;
    float sum = 0;
    printf("Enter n:\n");
    scanf("%d", &n);
    sum_series(n, &sum);
    printf("Sum of the series: %f\n", sum);
    return 0;
}
void sum_series(int n, float *sum) {
    if (n == 0) {
        return;
    }
    float term = 1;
    int i;
```

```
for (i = 1; i <= n; i++) {  
    term *= i;  
}  
*sum += term / n;  
sum_series(n-1, sum);  
}
```