Id – 221-15-5364

Problem 1 :

```
#include <stdio.h>
int result[1000] = {0};
int fact(int n)
{
   if (n >= 0)
   {
      result[0] = 1;
      for (int i = 1; i <= n; ++i)
      {
         result[i] = i * result[i - 1];
      }
      return result[n];
   }
}
int main()
{
   int n;
   while (1)
   {
      printf("Enter integer to compute factorial (enter 0 to exit): ");
```

```
        scanf("%d", &n);
        if (n == 0)
            break;
        printf("%d\n", fact(n));
    }
    return 0;
}
```

Problem 2:

```
#include <stdio.h>
int genFibonacci(int n) {
    int fibo[n + 2];
    fibo[0] = 0;
    fibo[1] = 1;
    for (int i = 2; i <= n; i++) {
        fibo[i] = fibo[i - 1] + fibo[i - 2];
    }
    return fibo[n];
}
int main() {
    int n;
    printf("Enter number of terms: ");
```

```
    scanf("%d", &n);
    printf("%dth Fibonacci Terms: %d\n", n, genFibonacci(n));
    return 0;
}
```

Problem 3:

```
#include <stdio.h>
int main() {
    int n, sum = 0;
    printf("Enter a positive integer: ");
    scanf("%d", &n);
    if (n < 1) {
        printf("Please enter a positive integer.\n");
    } else {
        for (int i = 1; i <= n; i++) {
            sum += i;
        }
        printf("The sum of the first %d natural numbers is: %d\n", n, sum);
    }
    return 0;
}
```