Supreme-Batch-Debug-Exercise-C++ (Week-2)

NOTE: The code snippet given may have compile time, runtime or logical errors.

How to attempt Debugging Exercise?

1. Copy the code to your code editor (e.g. VS Code).
2. Add relevant header files like "#include <iostream>" etc.
3. Run the code.
4. You will notice the expected output is not printing at the console.
5. Apply your smart coder mind to Debug the code.
6. **Warning**: Only see the solution after you have tried enough.

1. **Add integers from 1 to N and display the sum on console.**

```
void main(){
    int n;cin>>n;
    int8_t sum=0;
    for(int i=0;i<n;++i){
        sum+=i;
    }
    cout<<sum<<endl;
    return 0;
}
```

solution.txt 0.1KB

2. **Print full pyramid like an Equilateral Triangle**

```
#include <iostream>
using namespace std;
int main()
{
int k, n;
cout << "Enter the number of rows : ";
cin >> n;
cout << " ";
for (int i=1; i<=n; i++)
{

for (int j=1; j<=n-i; j++)
cout << " ';

for (j=1,k=i-1; j<=2*i-1; j++,k--)
{
if (1 || j <= k)
cout << j;
else
cout << k;
}
cout << endl;

cout << " ";

}
return 0;
}
```

solution.txt 0.3KB

3. **Left Triangle star Pattern**

```
E.g., For N = 5
*
**
***
****
*****
```

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

int main() {
  // size of the triangle
  int size = N;
  // loop to print the pattern
  for (int i = 0; i < size; i++) {
    // print column
    for (int j = 0; j < i; j++) {
      cout << "**";
    }
    cout << "\n";
  }
  return 0;
}
```

solution.txt 0.3KB

4. **Reverse Pyramid star pattern.**

```
e.g., N=5
*********
 *******
  *****
   ***
    *
```

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

int main() {
  // size of the pyramid
  int size; cin>>size;
  for (int i = 0; i < size; i++) {
    // print spaces
    for (int j = 0; j < i; j++) {
      cout << "  ";
    }
    // print stars
    for (k = 0; k < 2 * size - 1; k++) {
      cout << "*";
    }
    cout << "\n";
  }
  return 0;
}
```

solution.txt 0.3KB

5. **Reverse Pyramid star pattern.**

```
 e.g., for size=6;
 ***   ***
***** *****
**********
 *********
  *******
   *****
    ***
     *
```

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

int main() {
  // heart star pattern
  int size;
  cin>>size;

  for (int i = size / 2; i < size; i += 2) {
    // print first spaces
    for (int j = 1; j < size - i; j += 2) {
      cout << " ";
    }
    // print first stars
    for (int j = 0; j < i + 1; j++) {
      cout << "*";
    }
    // print second spaces
    for (int j = 1; j < size - i + 1; j++) {
      cout << " ";
    }
    // print second stars
    for (int j = 1; j < i + 1; j++) {
      cout << "*";
    }
    cout << "\n";
  }
  // lower part
  // inverted pyramid
  for (int i = size; i > 0; i++) {
    for (int j = 0; j < size - i; j++) {
      cout << " ";
    }
    for (int j = 1; j < i * 2; j++) {
      cout << "*";
    }
    cout << "\n";
  }
  return 0;
}
```

solution.txt 0.8KB

6. **Convert given Binary number to Decimal.**

```cpp
int binaryToDecimal(int b){
    int ans;
    int c=0;
    while(b){
        ans=(b % 10) * (1 << c++);
        b/=10;
    }
    return ans;
}
```

solution.txt 0.1KB

7. **Simple Calculator.**

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

int main() {
    char oper;
    float num1, num2;
    cout << "Enter an operator (+, -, *, /): ";
    cin >> oper;
    cout << "Enter two numbers: " << endl;
    cin >> num1 >> num2;

    switch (oper) {
        case +:
            cout << num1 << " + " << num2 << " = " << num1 + num2;
        case -:
            cout << num1 << " - " << num2 << " = " << num1 - num2;
        case /:
            cout << num1 << " * " << num2 << " = " << num1 * num2;
        case *:
            cout << num1 << " / " << num2 << " = " << num1 / num2;
        default:
            // operator is doesn't match any case constant (+, -, *, /)
            cout << "Error! The operator is not correct";
            break;
    }

    return 0;
}
```

solution.txt 0.8KB