FUNDAMENTALS OF PROGRAMMING

LAB MANUAL-6

HOME TASKS

ME-15C

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1. Write a program in C++ using break or continue statement that only adds prime numbers from 1 to 50 and displays the sum on screen.

```cpp
#include <iostream>

bool isPrime(int num) {
    if (num <= 1) {
        return false;
    }
    for (int i = 2; i <= num / 2; i++) {
        if (num % i == 0) {
            return false;
        }
    }
    return true;
}

int main() {
    int sum = 0;
    for (int i = 1; i <= 50; i++) {
        if (isPrime(i)) {
            sum += i;
        }
    }
    std::cout << "The sum of prime numbers from 1 to 50 is: " << sum << std::endl;
    return 0;
}
```

```
The sum of prime numbers from 1 to 50 is: 328
```

2. Write a program in C++ to create the following pattern

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

```cpp
#include <iostream>
int main() {
int n = 5;
for (int i = 1; i <= n; i++) {
for (int j = 1; j <= i; j++) {
std::cout << j << " ";
}
std::cout << std::endl;
}
return 0;
}
```

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

3. Write a C++ program to print: 1 2 2 4 4 4 4 6 6 6 6 6 6

```
1
2 2
4 4 4 4
6 6 6 6 6 6
```

```cpp
#include <iostream>

int main() {
    int n = 3;
    int num = 2;
    std::cout<<"1"<<std::endl;

    for (int i = 1; i <= n; i++) {
        for (int j = 1; j <= i * 2; j++) {
            std::cout << num << " ";
        }
        num += 2;
        std::cout << std::endl;
    }

    return 0;
}
```

```
1
2 2
4 4 4 4
6 6 6 6 6 6
```