

TEHREEM IJAZ

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PF LAB 6

### TASK 1

```
#include <iostream>
```

```
using namespace std;
```

```
int main () {
```

```
    int number;
```

```
    cout << "Enter a number to calculate factorial: ";
```

```
    cin >> number;
```

```
    long factorial = 1;
```

```
    for (int i = 1; i <= number; i++) {
```

```
        factorial *= i;
```

```
    }
```

```
    cout << "Factorial of " << number << " is: " << factorial << endl;
```

```
    return 0;
```

```
}
```

### TASK 2

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    for (int i = 2; i <= 20; i += 3) {
```

```
        cout << i << endl;
```

```
    }
```

```
    return 0;
```

```
}
```

### TASK 3

```
#include <iostream>
```

```
#include <string>
```

```
using namespace std;
```

```
int main() {
```

```
    const string correctPassword = "password123";
```

```
    string inputPassword;
```

```
    int attempts = 0;
```

```
    do {
```

```
        cout << "Enter your password: ";
```

```
        cin >> inputPassword;
```

```
        attempts++;
```

```
        if (inputPassword == correctPassword) {
```

```
            cout << "Access granted!" << endl;
```

```
            break;
```

```
        } else {
```

```
            cout << "Incorrect password." << endl;
```

```
        }
```

```
        if (inputPassword != correctPassword) {
```

```
            cout << "Access denied. you have tried 3 times." << endl;
```

```
        }
```

```
    } while (attempts <= 3);
```

```
    return 0;
```

```
}
```

### TASK 4

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    const int secretNumber = 15;
```

```
    int guess;
```

```
    cout << "Guess the secret number between 0 and 50!" << endl;
```

```
    while (true) {
```

```
        cout << "Enter your guess: ";
```

```
        cin >> guess;
```

```
        if (guess < 0 || guess > 50) {
```

```
            cout << "Please enter a number between 0 and 50." << endl;
```

```
        } else if (guess < secretNumber) {
```

```
            cout << "Try again its low!" << endl;
```

```
        } else if (guess > secretNumber) {
```

```
            cout << "Try again its high!." << endl;
```

```
        } else {
```

```
            cout << "Congratulations! You guessed the correct number." << endl;
```

```
            break;
```

```
        }
```

```
    }
```

```
    return 0;
```

```
}
```

## TASK 5

```
#include <iostream>
```

```
using namespace std;
```

```
int main(){  
    int choice;  
  
    do {  
        cout << "\nMenu:\n";  
        cout << "1. Print Hello\n";  
        cout << "2. Print World\n";  
        cout << "3. Exit\n";  
        cout << "Enter your choice: ";  
        cin >> choice;  
  
        switch (choice) {  
            case 1:  
                cout << "Hello\n";  
                break;  
            case 2:  
                cout << "World\n";  
                break;  
            case 3:  
                cout << "Exiting...\n";  
                break;  
            default:  
                cout << "Invalid choice. Please try again.\n";  
                break;  
        }  
    } while (choice != 3);  
  
    return 0;  
}
```

## TASK 6

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    int N;
```

```
    cout << "Enter the value of N: ";
```

```
    cin >> N;
```

```
    int sumOfSquares = 0;
```

```
    for (int i = 1; i <= N; i++) {
```

```
        sumOfSquares += (i * i);
```

```
    }
```

```
    cout << "The sum of squares of the first " << N << " natural numbers is: " << sumOfSquares << endl;
```

```
    return 0;
```

```
}
```