

Session 1

1. Understanding the Problem

- Read the problem well And make sure U understand it.
- Make sure every statement does not conflict What U over all understood
- Write Down important details
- Identify:
 - **Input:** What data is provided?
 - **Output:** What should be printed exactly?
 - **Constraints:** Max N? Need long long?
- Study the examples and create your own small example to confirm understanding.
important



2. Structuring the Problem

- Break the problem into **sub-tasks**.
- Consider **edge cases**:
- Very large values



3. Implementation

- Write clean, readable code.
- Use clear variable names.

Testing

- Test with the provided examples.
- Test with your own examples.
- Test all identified edge cases.



Problems for Today

- Problem 1 :
<https://codeforces.com/group/IEA3POa8Ps/contest/270648/problem/F>
- Solution

```
#include <iostream>

using namespace std;
int main(){

    int n ; cin >> n;

    int res1 = (n+3)*4;

    cout << res1 << endl;

    // another way

    int judges_p = n*4;

    int contestants_p = 3*4;

    int res2 = judges_p + contestants_p;

    cout << res2 << endl;

    return 0;} ````
```

- Problem 2 :
<https://codeforces.com/group/IEA3POa8Ps/contest/270648/problem/E>

- Solution

```
#include <iostream>

using namespace std;

int main(){

    /* wrong because the compiler and
    the two number first and after that stores it in the res*/

    int a , b ; cin >> a >> b;
    long long res = a+b;
    cout << res << endl;

    /* wrong for the same reason
    the two numbers are int so thier sum will be int too
    */
    int a , b ; cin >> a >> b;
    cout << a+b << endl;

    /* True way */
    long long a , b ; cin >> a >> b;
    cout << a+b << endl;

    int a , b ; cin >> a >> b;
    long long res = (long long) a+b;
    cout << res << endl;

}
```

- Problem 3 :

<https://codeforces.com/group/iEA3POa8Ps/contest/270648/problem/C>

- Solution

```
#include <iostream>
#include <cmath>

using namespace std;
```

```

int main(){

    /* Wrong because of the over flow */

    int n ; cin >> n;

    int num ; cin >> num;

    int res1 = num / pow(10 , n-1) ;

    cout << res1 << endl;


    /* True */

    int n ; cin >> n ;

    char digit ; cin >> digit;

    cout << digit << endl;

    /* Wrong as it is timelimit exceeded */

    int n ; cin >> n;

    string s ; cin >> s;

    cout << s[0] << endl;

    return 0;
}

```

- Problem 4 :
https://atcoder.jp/contests/abc428/tasks/abc428_a
- Solution

```

#include <iostream>

#include <cmath>


using namespace std;

```

```

int main(){

int s , a , b , x ;

cin >> s >> a >> b >> x;

int totalRun = x/(a+b);

int toutal_DiS = x-(totalRun*(a+b)) ;

int remain = (toutal_DiS+a - abs(toutal_DiS-a))/2; // min(bla , a);

int tot = remain+(totalRun*a);

cout << tot * s ;

// another solution

int s , a , b , x ; cin >> s >> a >> b >> x;
int sum = 0 ;
while (x) {
    if (x - a >= 0) {
        x-=a;
        sum += a;
        x-=b;
    }else {
        break;
    }
}
cout << (x >= 0 ? (sum+x)*s : sum*s);

return 0;
}

```

- Problem 5 :
<https://codeforces.com/group/iEA3POa8Ps/contest/270789/problem/G>
- Solution

```

#include <iostream>

using namespace std;

```

```
int main(){  
  
    int n , m ; cin >> n >> m;  
  
    int res = n - (n%m);  
  
    cout << res << endl;  
    return 0;  
}
```