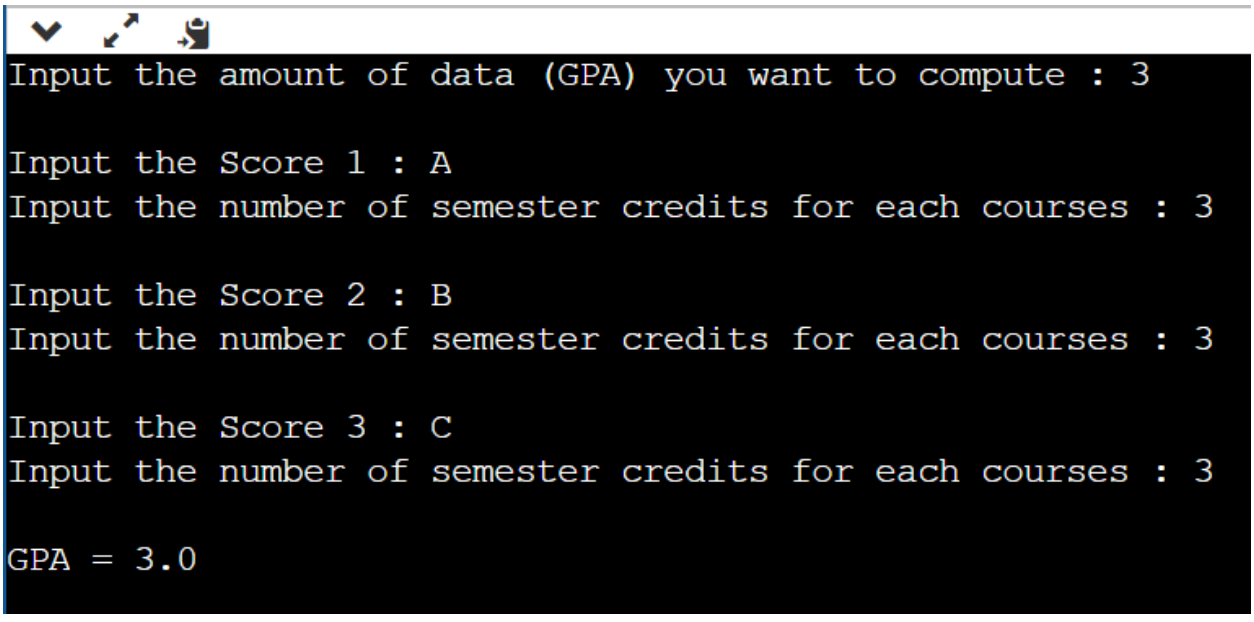
Program 1

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

//declaration of variables
int n, i;
float gpa;
float total_sks = 0;
float total_score = 0;

//Set score for each grade letter
char A = 4.00;
char B = 3.00;
char C = 2.00;
char D = 1.00;
char E = 0.00;

//function declaration with 3 parameters
void calculate_gpa(char score_arr[], int sks_arr[], int n);


int main(){

   //user determine the size of an array
   cout << "Input the amount of data (GPA) you want to compute : ";
   cin >> n;
   cout << endl;

    //array declaration
   char score_arr[n];
   int sks_arr[n];

   //function recall
   calculate_gpa(score_arr, sks_arr, n);

   //output the final calculation in decimal
   cout << "GPA = ";
   cout << showpoint << setprecision(2) << gpa << endl;


   return 0;
}
```

```
//defining the function
void calculate_gpa(char score_arr[], int sks_arr[], int n){


   //program to receive input
   for (i = 1; i <= n; i++){
      cout << "Input the Score " << i << " : ";
      cin >> score_arr[i];
      cout << "Input the number of semester credits for each courses : ";
      cin >> sks_arr[i];
      cout << endl;
   }
   //program to compute the GPA
   for (i = 1; i <= n; i++){
      total_score += (score_arr[i] * sks_arr[i]);
      total_sks += score_arr[i];
   }
   gpa = total_score / total_sks;
}
```

Output



```cpp
#include <iostream>
#include <iomanip>
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//declaration of variables
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float gpa;
float total_sks = 0;
float total_score = 0;

//Set score for each grade letter
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//function declaration with 3 parameters
void calculate_gpa(char score_arr[], int sks_arr[], int n);


int main(){

    //user determine the size of an array
    cout << "Input the amount of data (GPA) you want to compute : ";
    cin >> n;
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     //array declaration
    char score_arr[n];
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    //function recall
    calculate_gpa(score_arr, sks_arr, n);

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    return 0;
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//defining the function
void calculate_gpa(char score_arr[], int sks_arr[], int n){


    //program to receive input
    for (i = 1; i <= n; i++){
        cout << "Input the Score " << i << " : ";
        cin >> score_arr[i];
        cout << "Input the number of semester credits for each courses : ";
        cin >> sks_arr[i];
        cout << endl;
    }
    //program to compute the GPA
    for (i = 1; i <= n; i++){
        total_score += (score_arr[i] * sks_arr[i]);
        total_sks += score_arr[i];
    }
    gpa = total_score / total_sks;
}
```
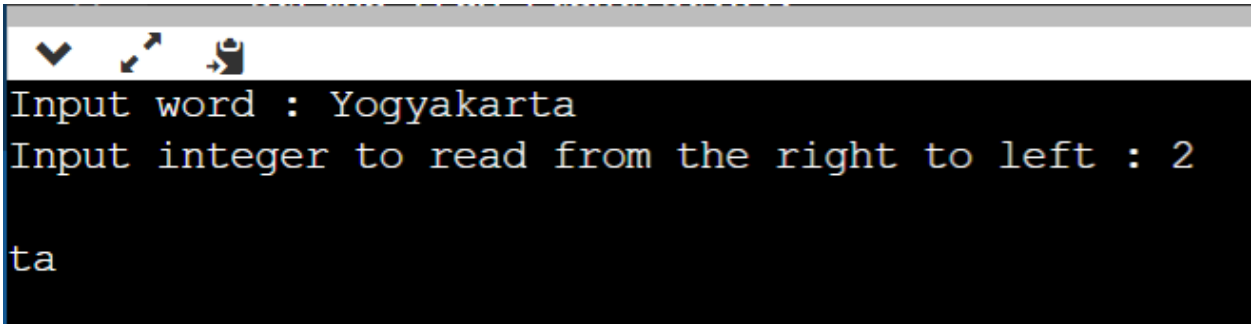
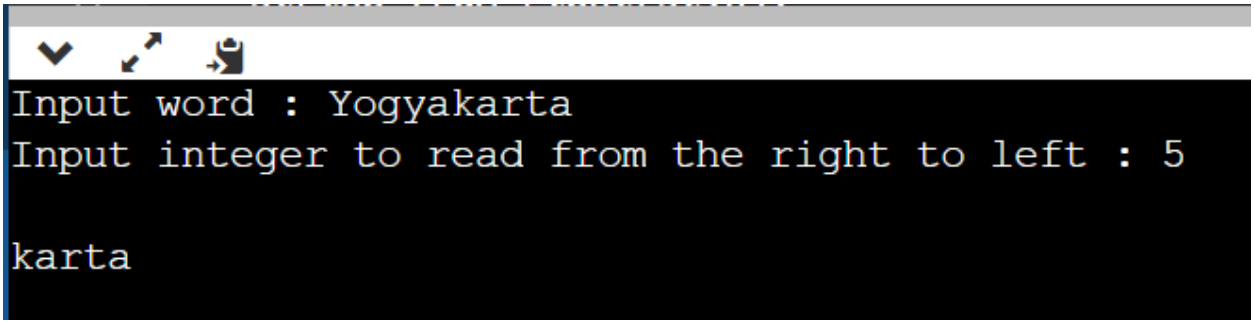

Program 2

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

//declaration of function
void string_from_right(string st, int n);
//declaration of variables
int n;
string st;

int main(){
   cout << "Input word : ";
   cin >> st;
   cout << "Input integer to read from the right to left : ";
   cin >> n;
   cout << endl;
   //recalling the function
   string_from_right(st,n);

   return 0;
}

//defining the function
void string_from_right(string st, int n){
   for (int i = st.length() - n; i < st.length(); i++){
      cout << st[i];
   }
}
```

Output





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

//declaration of function
void string_from_right(string st, int n);
//declaration of variables
int n;
string st;

int main(){
    cout << "Input word : ";
    cin >> st;
    cout << "Input integer to read from the right to left : ";
    cin >> n;
    cout << endl;
    //recalling the function
    string_from_right(st,n);

    return 0;
}

//defining the function
void string_from_right(string st, int n){
    for (int i = st.length() - n; i < st.length(); i++){
        cout << st[i];
    }
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```