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20BCE0545

The screenshot shows the HackerRank website interface. The top navigation bar includes links for PRACTICE, CERTIFICATION, COMPETE, JOBS, and LEADERBOARD. The user's profile is 'singhsnigdha2...'. The main content area is titled 'Practice > C' and shows a list of challenges. The first challenge is '"Hello World!" in C', which is marked as 'Solved'. Below it are 'Playing With Characters' and 'Sum and Difference of Two Numbers', also marked as 'Solved'. On the right side, there is a 'STATUS' section with a 'Solved' checkbox checked, and a 'SKILLS' section with 'C (Basic)' and 'C (Intermediate)' checkboxes. The 'DIFFICULTY' section has 'Easy', 'Medium', and 'Hard' checkboxes. The bottom of the page shows a Windows taskbar with various application icons and the system clock displaying 14:50 on 27-02-2021.

## "Hello World!" in C

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
```

```
int main()
{
```

```
    char s[100];
    scanf("%[^\n]*c", &s);
    printf("Hello, World!\n");
    printf("%s", s);
```

```
    /* Enter your code here. Read input from STDIN. Print output to STD
OUT */
    return 0;}
```

# Playing With Characters

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main()
{
    char ch,s[10000],sen[10000000];
    scanf("%c\n",&ch);
    scanf("%s\n",s);
    gets(sen);
    printf("%c\n",ch);
    printf("%s\n",s);
    puts(sen);

    /* Enter your code here. Read input from STDIN. Print output to STD
OUT */
    return 0;
}
```

# Sum and Difference of Two Numbers

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main()
{
    int i,j;
    float k,l;
    int c,d;
    float a,b;
    scanf("%d %d",&i,&j);
    scanf("%f %f",&k,&l);
    c=i+j;
    d=i-j;
    a=k+l;
    b=k-l;
    printf("%d %d\n",c,d);
    printf("%.1f %.1f",a,b);

    return 0;
}
```

# Functions in C

```
#include <stdio.h>
/*
Add `int max_of_four(int a, int b, int c, int d)` here.
*/
int max_of_four(a,b,c,d){
    int max=0;
    if((a>b)&&(a>c)&&(a>d)){
        max=a;
    }
    else if((b>c)&&(b>d)&&(b>a)){
        max=b;
    }
    else if((c>d)&&(c>b)&&(c>a)){
        max=c;
    }
    else{
        max=d;
    }
    return max ;
}
int main() {
    int a, b, c, d;
    scanf("%d %d %d %d", &a, &b, &c, &d);
    int ans = max_of_four(a, b, c, d);
    printf("%d", ans);

    return 0;
}
```

# Conditional Statements in C

```
#include<stdio.h>
int main(){
    int n;
    scanf("%d",&n);
    switch(n){
        case 1: printf("one");break;
        case 2: printf("two");break;
        case 3: printf("three");break;
        case 4: printf("four");break;
        case 5: printf("five");break;
        case 6: printf("six");break;
        case 7: printf("seven");break;
        case 8: printf("eight");break;
        case 9: printf("nine");break;
    }
```

```

        default:printf("Greater than 9");
    }

}

```

## For Loop in C

```

#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main()
{
    int a, b,n;
    scanf("%d\n%d", &a, &b);
    for(n=a;n<=b;n++){
        if (n>=1 && n<=9){
            switch(n){
                case 1:
                    printf("one\n");break;
                case 2:
                    printf("two\n");break;
                case 3:
                    printf("three\n");break;
                case 4:
                    printf("four\n");break;
                case 5:
                    printf("five\n");break;
                case 6:
                    printf("six\n");break;
                case 7:
                    printf("seven\n");break;
                case 8:
                    printf("eight\n");break;
                case 9:
                    printf("nine\n");break;}}
        else if (n>9){
            if (n%2==0){
                printf("even\n");
            }
            else{
                printf("odd\n");
            }
        }
    }
}

```

```

        // Complete the code.

    return 0;
}

```

## Sum of Digits of a Five Digit Number

```

#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {

    int n,i,j;
    int sum=0;
    scanf("%d", &n);
    j=10;
    while(n>0){
        i=n%j;
        sum+=i;
        n=n/j;
    }
    printf("%d",sum);
    //Complete the code to calculate the sum of the five digits on n.
    return 0;
}

```

## Bitwise Operators

```

#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
//Complete the following function.

void calculate_the_maximum(int n, int k) {
    int max;
    int i,j;
    int pts[n];
    for(i=0;i<n;i++){
        pts[i]=i+1;
    }
    max=0;
    for(i=1;i<n;i++){
        for(j=i+1;j<=n;j++){
            if(((i&j)<k) && ((i&j)>max)){

```

```

        max=(i&j) ;
    }
}
}
printf("%d\n",max);
max=0;
for(i=1;i<n;i++){
    for(j=i+1;j<=n;j++){
        if(((i|j)<k) && ((i|j)>max)){
            max=(i|j) ;
        }
    }
}
printf("%d\n",max);
max=0;
for(i=1;i<n;i++){
    for(j=i+1;j<=n;j++){
        if(((i^j)<k) && ((i^j)>max)){
            max=(i^j) ;
        }
    }
}
printf("%d\n",max);
}

int main() {
    int n, k;

    scanf("%d %d", &n, &k);
    calculate_the_maximum(n, k);

    return 0;
}

```

## Printing Pattern Using Loops

```

    4 4 4 4 4 4 4
    4 3 3 3 3 4
    4 3 2 2 2 3 4
    4 3 2 1 2 3 4
    4 3 2 2 2 3 4
    4 3 3 3 3 4
    4 4 4 4 4 4 4
#include <stdio.h>

int main()
{

```

```

int N, i, j;

scanf("%d", &N);

// First upper half of the pattern
for(i=N; i>=1; i--)
{
    // First inner part of upper half
    for(j=N; j>i; j--)
    {
        printf("%d ", j);
    }

    // Second inner part of upper half
    for(j=1; j<=(i*2-1); j++)
    {
        printf("%d ", i);
    }

    // Third inner part of upper half
    for(j=i+1; j<=N; j++)
    {
        printf("%d ", j);
    }

    printf("\n");
}

// Second lower half of the pattern
for(i=1; i<N; i++)
{
    // First inner part of lower half
    for(j=N; j>i; j--)
    {
        printf("%d ", j);
    }

    // Second inner part of lower half
    for(j=1; j<=(i*2-1); j++)
    {
        printf("%d ", i+1);
    }

    // Third inner part of lower half
    for(j=i+1; j<=N; j++)
    {

```

```

        printf("%d ", j);
    }

    printf("\n");
}

return 0;
}

```

## Calculate the Nth term

```

#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
//Complete the following function.

int find_nth_term(int n, int a, int b, int c) {
    //Write your code here.
    if (n==1){
        return a;
    }
    else if(n==2){
        return b;
    }
    else if(n==3){
        return c;
    }
    else{
        return find_nth_term(n-1,a,b,c)+find_nth_term(n-
2,a,b,c)+find_nth_term(n-3,a,b,c);
    }
}

int main() {
    int n, a, b, c;

    scanf("%d %d %d %d", &n, &a, &b, &c);
    int ans = find_nth_term(n, a, b, c);

    printf("%d", ans);
    return 0;
}

```



