**Loops & Pattern printing**

**THE MISSING NUMBER**

<https://vjudge.net/problem/HackerRank-si-basic-the-missing-number>

#include <iostream>

using namespace std;

int main()

{

int a,i,sum=0;

for(i=1;i<100;i++)

{

cin>>a;

sum+=a;

}

cout<<5050-sum<<endl;

return 0;

}

**INPUT:**

12 15 9 1 71 77 81 29 70 19 11 83 56 2 57 53 68 99 82 100 22 10 51 40 34 98 80 38 39 89 94 4 26 64 45 8 90 24 93 33 21 7 49 88 5 28 55 67 65 50 32 58 6 37 46 42 20 44 41 3 78 76 73 16 31 85 91 54 60 47 97 43 84 17 35 69 13 30 61 79 72 48 23 66 52 27 62 87 63 18 75 96 14 86 95 74 25 59 36

**OUTPUT:**

92

**ARMSTRONG NUMBER**

<https://vjudge.net/problem/HackerRank-si-basic-check-armstrong-number>

#include <iostream>

using namespace std;

int main()

{

int temp,N,s=0,r;

cin>>N;

temp=N;

while(temp!=0)

{

r=temp%10;

s=s+r\*r\*r;

temp=temp/10;

}

if(s==N)

cout<<"Yes";

else

cout<<"No";

}

**NARCISSISTIC NUMBERS**

<https://vjudge.net/problem/HackerRank-si-basic-narcissistic-numbers>

#include <iostream>

#include<math.h>

using namespace std;

int main()

{

int N,r,t1,t2,s=0;

cin>>N;

int count=0;

t1=N;

t2=N;

while(t1!=0)

{

t1=t1/10;

count++;

}

while(t2!=0)

{

r=t2%10;

s=s+pow(r,count);

t2=t2/10;

}

if(N==s)

cout<<"Yes"<<endl;

else

cout<<"No"<<endl;

return 0;

}

**INPUT:**

8208

**OUTPUT:**

Yes

**Explanation 0**

84 + 24 + 04 + 84 = 8208

**PRINT HALF DIAMOND PATTERN**

<https://vjudge.net/problem/HackerRank-si-basic-print-half-diamond-pattern>

#include <iostream>

using namespace std;

int main()

{

int n;

cin>>n;

for(int i = 1;i <= n; i++)

{

for(int j = 1; j <= i; j++)

cout << "\*";

cout << endl;

}

for(int i=1;i<=n;i++)

{

for(int j=1;j<=n-i;j++)

cout<< "\*";

cout << endl;

}

}

**INPUT:**

5

**OUTPUT:**

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**PYRAMID PATTERN**

<https://vjudge.net/problem/HackerRank-si-basic-print-pyramid-pattern>

#include <iostream>

using namespace std;

int main()

{

int N;

cin>>N;

for(int i=0;i<N;i++)

{

for(int j=0; j<N-i-1;j++)

{

cout<<" ";

}

for(int k=0;k<2\*i+1;k++)

{

cout<<"\*";

}

cout <<std:: endl;

}

return 0;

}

**INPUT:**

5

**OUTPUT:**

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