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ECE-D

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ProblemStatement1:
Writeaprogramthatprintsasimplechessboard.
Inputformat:
ThefirstlinecontainsthenumberofinputsT.
Thelinesafterthatcontainadifferentvalueforsizeofthechessboard
Outputformat:
Printachessboardofdimensionssize*size.
PrintWforwhitespacesandBforblackspaces.
SampleInput:
2
3
5
SampleOutput:
WBW
BWB
WBW
WBWBW
BWBWB
WBWBW
BWBWB
WBWBW

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
int main(){
    int t,s;
    scanf("%d",&t);
    while(t--){
        scanf("%d",&s);
        for(int i=0;i<s;i++){
            for(int j=0;j<s;j++){
                if((i+j)%2==0){
                    printf("W");
                }
                else{
                    printf("B");
                }
            }
            printf("\n");
        }
    }

}
```

	Input	Expected	Got	
✓	2 3 5	WBW BWB WBW WBWBW BWBWB WBWBW BWBWB WBWBW	WBW BWB WBW WBWBW BWBWB WBWBW BWBWB WBWBW	✓

Passed all tests! ✓

ProblemStatement2:
Let’sprintachessboard!
Writeaprogramthattakesinput:
ThefirstlinecontainsT,thenumberoftestcases
EachtestcasecontainsanintegerNandalsothestartingcharacterofthe chessboard
Output Format
Printthechessboardasperthegivenexamples
SampleInput:
2
2W
3B
SampleOutput:
WB
BW
BWB
WBW

BWB

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>

int main(){
    char s;
    int t,n;
    scanf("%d",&t);
    while(t--){
        scanf("%d %c",&n,&s);
        for(int i=0;i<n;i++){
            for(int j=0;j<n;j++){
                if((i+j)%2==0){
                    printf("%c",s);
                }
                else{
                    if(s=='W'){
                        printf("B");
                    }
                    else{
                        printf("W");
                    }
                }
            }
            printf("\n");
        }
    }
}
```

	Input	Expected	Got	
✓	2 2 W 3 B	WB BW BWB WBW BWB	WB BW BWB WBW BWB	✓

Passed all tests! ✓

ProblemStatement3:
DecodethelogicandprintthePatternthatcorrespondstogiveninput.
IfN=3thenpatternwillbe:
10203010011012
**4050809
****607
IfN=4,thenpatternwillbe:
10203040170180190 20
**50607014015016
****809012013
******10011
Constraints:2<=N<=100
InputFormat
FirstlinecontainsT,thenumberoftestcases,eachtestcasecontainsasingle integerN

Output Format

FirstlineprintCase#iwhereiisthetestcasenumber,Inthesubsequentline, printthe pattern

SampleInput

3

3

4

5

SampleOutput

Case#1

10203010011012

**4050809

****607

Case#2

10203040170180190 20

**50607014015016

****809012013

******10011

Case#3

10203040502602702802 9030

**60708090220230240 25

****10011012019020021

******13014017018

********15016

```c
#include <stdio.h>

int main(){
    int t;
    scanf("%d",&t);
    for(int x=1;x<=t;x++){
        printf("Case #%d\n",x);
        int n;
        scanf("%d",&n);
        int f=1,b=n*(n+1);
        for(int i=0;i<n;i++){
            for(int j=0;j<2*i;j++){
                printf("*");
            }
            printf("%d",f);
            f++;
            for(int k=2;k<=n-i;k++){
                printf("0%d",f);
                f++;
            }
            for(int l=b-(n-i)+1;l<=b;l++){
                printf("0%d",l);
            }
            b-=n-i;
            printf("\n");
        }
    }
    return 0;
}
```

	Input	Expected	Got	
✓	3 3 4 5	Case #1 10203010011012 **4050809 ****607 Case #2 10203040170180190 20 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802903 0 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	Case #1 10203010011012 **4050809 ****607 Case #2 10203040170180190 20 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802903 0 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	✓

Passed all tests! ✓

ProblemStatement4:
Thek-digitnumberNisanArmstrongnumberifandonlyifthek-thpowerof eachdigit sumstoN.
GivenapositiveintegerN,returntrueifandonlyifitisanArmstrong number.
Note:1<=N<=10^8
Hint:153isa3-digitnumber,and153=1^3+5^3+3^3.
SampleInput:
153
SampleOutput:
true
SampleInput:
123
SampleOutput:

false
SampleInput:
1634
SampleOutput:
true

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
#include <math.h>

int main(){
    int n,sum=0,t,c=0;
    scanf("%d",&n);
    t=n;
    while(n>0){
        n=n/10;
        c=c+1;
    }
    n=t;
    while(t>0){
        sum=sum+pow((t%10),c);
        t/=10;
    }
    if(sum==n){
        printf("true");
    }
    else{
        printf("false");
    }
}
```

	Input	Expected	Got	
✓	153	true	true	✓
✓	123	false	false	✓

Passed all tests! ✓

ProblemStatement5:
Takeanumber,reverseitandadditotheoriginalnumberuntiltheobtained numberis
apalindrome.
Constraints
1<=num<=99999999
SampleInput1
32
SampleOutput1
55

SampleInput2
789
SampleOutput2
66066

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>


int rev(int n){
    int reverse=0;
    while(n>0){
    reverse=(reverse*10)+(n%10);
    n=n/10;
    }
    return reverse;
}
int Pal(int n){
    return rev(n)==n;
}
int main(){
    int n;
    scanf("%d",&n);
    while(!Pal(n)){
        int r=rev(n);
        n=n+r;
    }
    printf("%d",n);
}
```

ProblemStatement6:
Anumberisconsideredluckyifitcontainseither3or4or3and4bothinit.
Writea
programtoprintthenthluckynumber.Example,1stluckynumberis3,and
2ndlucky
numberis4and3rdluckynumberis33and4thluckynumberis34andsoon. Notethat
13,40etc.,arenotluckyastheyhaveothernumbersinit.
Theprogramshouldacceptanumber'n'asinputanddisplaythenthlucky
numberas
output.
SampleInput1:
3
SampleOutput1:
33

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>

int main(){
    int n=1;
    int i=0,ns,c=0,e;
    scanf("%d",&e);
    while(i<e){
        ns=n;
        while(ns!=0){
            c=0;
            if(ns%10!=3&&ns%10!=4){
                c=1;
                break;
            }
            ns/=10;
        }
        if(c==0){
            i++;
        }
        n++;
    }
    printf("%d",--n);
}
```

	Input	Expected	Got	
✓	34	33344	33344	✓

Passed all tests! ✓