**Basic Programming(week-1)**

**1. Input/Output**

1. Number of Steps

#include <stdio.h>

int main(){

int size;

scanf("%d", &size);

int first\_array[size],second\_array[size];

for(int i = 0; i<size; i++){

scanf("%d",&first\_array[i]);

}

for(int i = 0; i<size; i++){

scanf("%d",&second\_array[i]);

}

int min = first\_array[0];

for(int i=0;i<size;i++){

if(first\_array[i] < min)

min = first\_array[i];

}

int i = 0,count = 0;

while (i < size){

while(first\_array[i] > min){

first\_array[i] = first\_array[i] - second\_array[i];

count = count + 1;

}

if(first\_array[i] < min){

min = first\_array[i];

i = 0;

}

else if(first\_array[i] < 0){

count = -1;

break;

}

else

i = i + 1;

}

printf("%d",count);

}

1. Zoos

#include <stdio.h>

#include <string.h>

int main(){

char word[20];

int count1=0;

int count2 = 0;

int total\_o = 0;

scanf("%s", &word);

for(int i =0 ; word[i]!='\0';i++){

if(word[i] == 'z'){

count1 += 1;

}

else{

count2 += 1;

}

}

total\_o = count1\*2;

if(total\_o == count2){

printf("Yes");

}else{

printf("No");

}

}

1. Divisibility

#include <stdio.h>

int main(){

int N = 0;

scanf("%d", &N);

long data[N];

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

scanf("%ld", &data[i]);

if(data[N-1]%10 == 0)

printf("Yes");

else

printf("No");

return 0;

}

1. Split houses

#include <stdio.h>

int main(){

int grid;

int flag = 0;

scanf("%d", &grid);

char villages[grid];

scanf("%s",&villages);

for(int i=0;i<grid;i++){

if(villages[i] == '.'){

villages[i] = 'B';

}

}

for(int i =0 ;i<grid;i++){

if(villages[i] == 'H' && villages[i+1] == 'H'){

flag = 1;

break;

}

}

if(flag==1){

printf("NO");

}else{

printf("YES \n");

for(int i = 0; i<grid;i++){

printf("%c",villages[i]);

}

}

}

6. Divisible

#include <stdio.h>

#include <string.h>

int main () {

int t = 0, i, number = 0, odd = 0;

scanf ("%d", &t);

for (i = 0; i < t; i++) {

if (i < t / 2) {

scanf ("%d", &number);

while (number > 9) number /= 10;

if (i % 2 != 0) odd += number;

else odd -= number;

}

else {

scanf ("%d", &number);

while (number > 9) number -= 10;

if (i % 2 != 0) odd += number;

else odd -= number;

}

}

if (odd == 0) printf ("OUI");

else printf ("NON");

}

7. Cost of balloons

#include<stdio.h>

int main()

{

int testCase,i,j,cost1,cost2,participants,solve1,solve2,sum1=0,sum2=0;

scanf("%d",&testCase);

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

{

scanf("%d %d",&cost1,&cost2);

scanf("%d",&participants);

for(j=1;j<=participants;j++)

{

scanf("%d %d",&solve1,&solve2);

sum1=(sum1+((solve1\*cost1)+(solve2\*cost2)));

sum2=(sum2+((solve1\*cost2)+(solve2\*cost1)));

}

if(sum1<sum2)

{

printf("%d\n",sum1);

}

else

{

printf("%d\n",sum2);

}

sum1=0;

sum2=0;

}

}

8. Best Index

#include<stdio.h>

#include<math.h>

main()

{

long n,i,k,j,left,p=0,max=-10000000;

scanf("%ld",&n);

long a[n],sum;

for(i=0;i<n;i++)

{

scanf("%ld",&a[i]);

if(i>0)

a[i]+=a[i-1];

}

for(i=0;i<n;i++)

{

left=n-i;

sum=0;

k=(-1+(int)sqrt((double)(8\*left+1)))/2;

sum=a[(k\*(k+1))/2+i-1];

if(i!=0)

sum-=a[i-1];

if(max<sum)

max=sum;

}

printf("%ld",max);

}

9.Find Product

#include<stdio.h>

int main()

{

long long int i,arr[10000],size,j=1;

scanf("%d\n",&size);

for(i=0; i<size; i++)

{

scanf("%d\t",&arr[i]);

}

for(i=0; i<size; i++)

{

j=(j\*arr[i])%1000000007;

}

printf("%lld",j);

}

10. Palindromic String

#include <stdio.h>

#include <string.h>

int main(){

char s[100];

int length;

int flag = 0;

scanf("%s", &s);

length = strlen(s);

for(int i=0;i<length;i++){

if(s[i] != s[length - i -1]){

flag = 1;

}

}

if(flag == 1){

printf("NO");

}else{

printf("YES");

}

}

11. Factorial!

#include <stdio.h>

int main(){

int num;

int fact = 1;

scanf("%d", &num);

while(num > 0){

fact = fact \* num;

num --;

}

printf("%d",fact);

}