

プログラム

```

#include <stdio.h>
#include <stdlib.h>
int *join(int *,int *);
int *prod(int *,int *);
int main(void){
    int i;
    int X[100],Y[100];
    int *Xjoin,*Xprod;

    for(i=0;i<100;i++){
        //データ作成
        X[i]=0;
        Y[i]=0;
        if((i+1)%2==0){
            //偶数の場合i番目の要素を含む
            X[i]=1;
        }
        if((i+1)%5==0){
            //5の倍数の場合i番目の要素を含む
            Y[i]=1;
        }
    }
    Xjoin=join(X,Y);
    Xprod=prod(X,Y);

    printf("join.ver\n");
    for(i=0;i<100;i++)
        printf("%d ",Xjoin[i]);
    printf("\nprod.ver\n");
    for(i=0;i<100;i++)
        printf("%d ",Xprod[i]);

    return 0;
}
int *join(int *X,int *Y){
    int i,*Z;
    Z=(int *)malloc(sizeof(int)*100);
    for(i=0;i<100;i++){
        if(X[i]==1 || Y[i]==1)Z[i]=1;
        else Z[i]=0;
    }
    return Z;
}
int *prod(int *X,int *Y){
    int i,*Z;
    Z=(int *)malloc(sizeof(int)*100);
    for(i=0;i<100;i++){
        if(X[i]==1 && Y[i]==1)Z[i]=1;
        else Z[i]=0;
    }
    return Z;
}

```

実行結果

(Xは偶数が1,奇数が0。Yは5の倍数が1,それ以外が0)の場合

```

[ke_ro@ke-roMacBook-Air:~/atom$ gcc joinprod.c
[ke_ro@ke-roMacBook-Air:~/atom$ ./a.out
join.ver
0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0
1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1
prod.ver
0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 ke_ro@ke-roMacBook-Air:~/atom$

```

(最初の実行環境にX[0]=1(iが1), X[9]=0(iが10)) の場合

```

[ke_ro@ke-roMacBook-Air:~/atom$ gcc joinprod.c
[ke_ro@ke-roMacBook-Air:~/atom$ ./a.out
join.ver
1 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 1 1 0 1 0
1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1 0 1 0 1 1 1 0 1 0 1
prod.ver
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 ke_ro@ke-roMacBook-Air:~/atom$

```