SET OPERATIONS

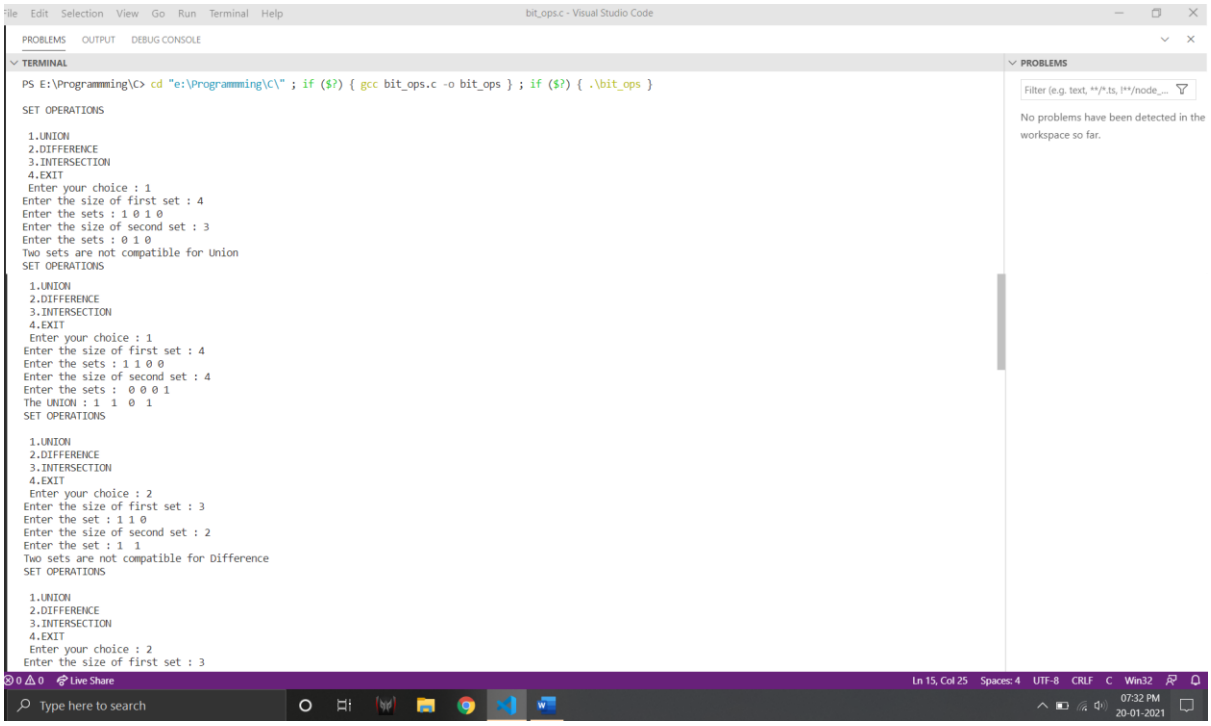
```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void union1();
void difference();
void intersection();
void main()
{
    int choice;
    do
    {
    printf("\nSET OPERATIONS \n");
    printf("\n 1.UNION\n 2.DIFFERENCE \n 3.INTERSECTION \n 4.EXIT\n");
    printf(" Enter your choice : ");
    scanf("%d",&choice);
    switch(choice)
    {
        case 1 :
            union1();
            break;
        case 2 :
            difference();
            break;
        case 3:
            intersection();
            break;
        case 4:
            exit(0);
            break;
        default:
            printf("Wrong choice\n");
    };
    }while(choice!=4);
}
void union1()
{
    int m,n,i;
    int s1[20],s2[20],s[45];
    printf("Enter the size of first set : ");
    scanf("%d",&n);
    printf("Enter the sets : ");
    for(i=0;i<n;i++)
    {
        scanf("%d",&s1[i]);
    }
```

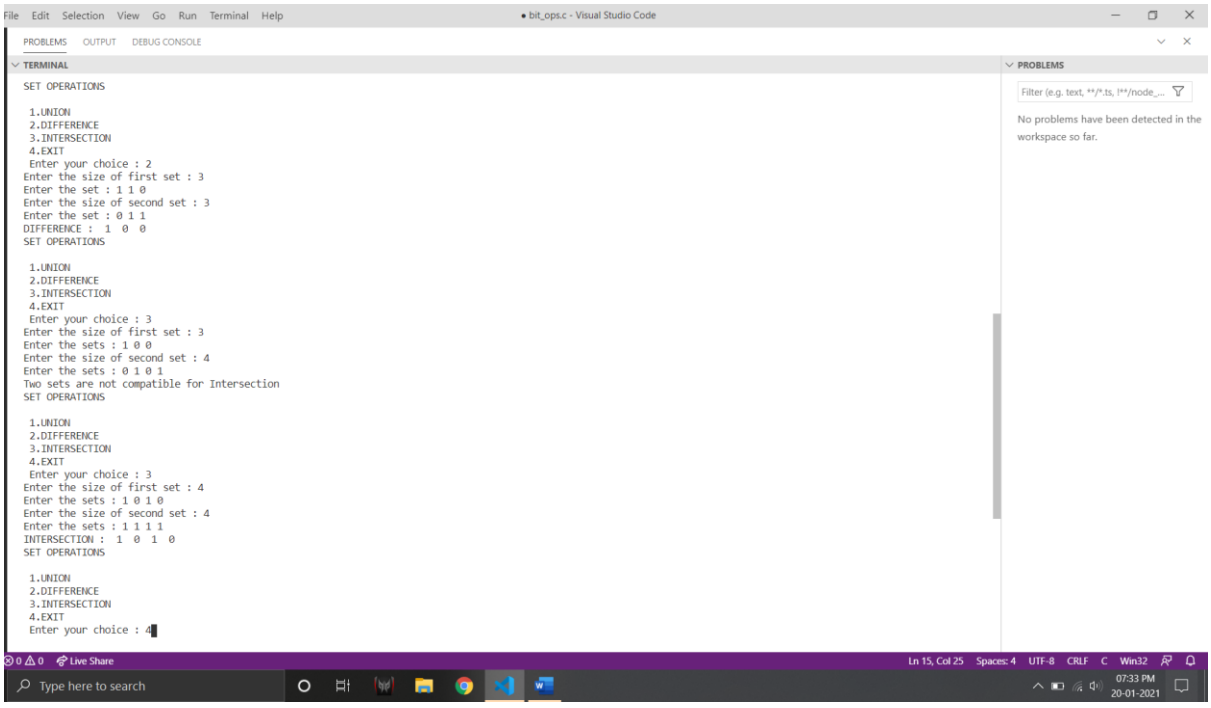
```
    printf("Enter the size of second set : ");
    scanf("%d",&m);
     printf("Enter the sets : ");
    for(i=0;i<m;i++)
    {
        scanf("%d",&s2[i]);
    }
    if(m!=n)
    {
        printf("Two sets are not compatible for Union");
    }
    else
    {
        for(i=0;i<m;i++)
        {
        s[i]=(s1[i]|s2[i]);
        }
        printf("The UNION :");
        for(i=0;i<m;i++)
        {
        printf(" %d ",s[i]);
        }
    }
}
void intersection()
{
    int m,n,i;
    int s1[20],s2[20],s[45];
    printf("Enter the size of first set : ");
    scanf("%d",&n);
    printf("Enter the sets : ");
    for(i=0;i<n;i++)
    {
        scanf("%d",&s1[i]);
    }
    printf("Enter the size of second set : ");
    scanf("%d",&m);
    printf("Enter the sets : ");
    for(i=0;i<m;i++)
    {
        scanf("%d",&s2[i]);
    }
    if(m!=n)
    {
        printf("Two sets are not compatible for Intersection");
    }
    else
    {
```

```
        for(i=0;i<m;i++)
        {
        s[i]=(s1[i]&s2[i]);
        }
        printf("INTERSECTION : ");
        for(i=0;i<m;i++)
        {
        printf(" %d ",s[i]);
        }
    }
}
void difference()
{
    int m,n,i;
    int s1[20],s2[20],s[40];
    printf("Enter the size of first set : ");
    scanf("%d",&n);
    printf("Enter the set : ");
    for(i=0;i<n;i++)
    {
        scanf("%d",&s1[i]);
    }
    printf("Enter the size of second set : ");
    scanf("%d",&m);
    printf("Enter the set : ");
    for(i=0;i<m;i++)
    {
        scanf("%d",&s2[i]);
    }
    if(m!=n)
    {
        printf("Two sets are not compatible for Difference");
    }
    else
    {
        for(i=0;i<m;i++)
        {
        s2[i]=(!s2[i]);
        }
        for(i=0;i<m;i++)
        {
        s[i]=(s1[i]&s2[i]);
        }
        printf("DIFFERENCE : ");
        for(i=0;i<m;i++)
        {
        printf(" %d ",s[i]);
        }
```

```
    }
}
```

OUTPUT


bit_ops.c - Visual Studio Code
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PS E:\Programmming\C> cd "e:\Programmming\C\" ; if ($?) { gcc bit_ops.c -o bit_ops } ; if ($?) { .\bit_ops }
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 1
Enter the size of first set : 4
Enter the sets : 1 0 1 0
Enter the size of second set : 3
Enter the sets : 0 1 0
Two sets are not compatible for Union
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 1
Enter the size of first set : 4
Enter the sets : 1 1 0 0
Enter the size of second set : 4
Enter the sets : 0 0 0 1
The UNION : 1 1 0 1
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 2
Enter the size of first set : 3
Enter the set : 1 1 0
Enter the size of second set : 2
Enter the set : 1 1
Two sets are not compatible for Difference
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 2
Enter the size of first set : 3
PROBLEMS
Filter (e.g. text, **/*.ts, !**/node_...
No problems have been detected in the workspace so far.
Live Share
Ln 15, Col 25
Spaces: 4
UTF-8
CRLF
C
Win32
Type here to search
07:32 PM
20-01-2021


• bit_ops.c - Visual Studio Code
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 2
Enter the size of first set : 3
Enter the set : 1 1 0
Enter the size of second set : 3
Enter the set : 0 1 1
DIFFERENCE : 1 0 0
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 3
Enter the size of first set : 3
Enter the sets : 1 0 0
Enter the size of second set : 4
Enter the sets : 0 1 0 1
Two sets are not compatible for Intersection
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 3
Enter the size of first set : 4
Enter the sets : 1 0 1 0
Enter the size of second set : 4
Enter the sets : 1 1 1 1
INTERSECTION : 1 0 1 0
SET OPERATIONS
1.UNION
2.DIFFERENCE
3.INTERSECTION
4.EXIT
Enter your choice : 4
PROBLEMS
Filter (e.g. text, **/*.ts, !**/node_...
No problems have been detected in the workspace so far.
Live Share
Ln 15, Col 25
Spaces: 4
UTF-8
CRLF
C
Win32
Type here to search
07:33 PM
20-01-2021