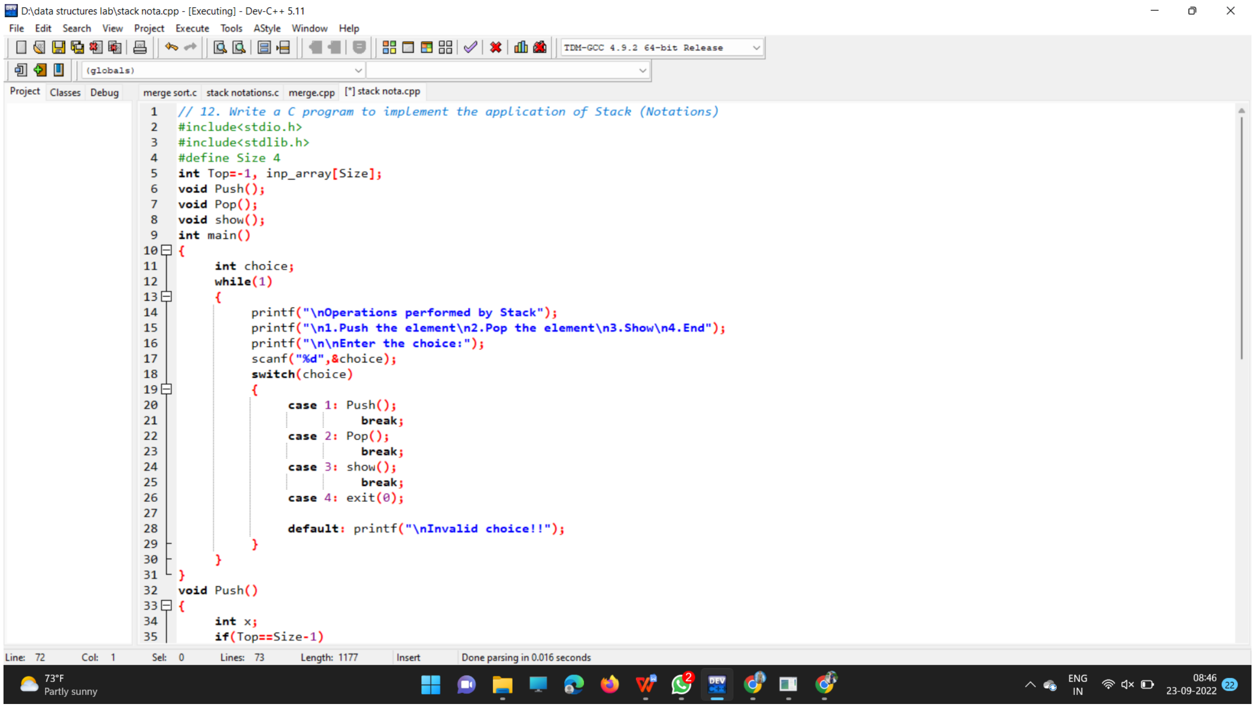
```
// 12. Write a C program to implement the application of Stack (Notations)

#include<stdio.h>

#include<stdlib.h>

#define Size 4

int Top=-1, inp_array[Size];
void Push();
void Pop();
void show();

int main()
{
    int choice;

    while(1)
    {
        printf("\nOperations performed by Stack");
        printf("\n1.Push the element\n2.Pop the element\n3.Show\n4.End");
        printf("\n\nEnter the choice:");
        scanf("%d",&choice);

        switch(choice)
        {
            case 1: Push();
                    break;
            case 2: Pop();
                    break;
            case 3: show();
                    break;
            case 4: exit(0);

            default: printf("\nInvalid choice!!");
        }
    }
}

void Push()
{
    int x;

    if(Top==Size-1)
```

```
		{
			printf("\nOverflow!!");
		}
		else
		{
			printf("\nEnter element to be inserted to the stack:");
			scanf("%d",&x);
			Top=Top+1;
			inp_array[Top]=x;
		}
}

void Pop()
{
		if(Top==-1)
		{
			printf("\nUnderflow!!");
		}
		else
		{
			printf("\nPopped element:  %d",inp_array[Top]);
			Top=Top-1;
		}
}

void show()
{


		if(Top==-1)
		{
			printf("\nUnderflow!!");
		}
		else
		{
			printf("\nElements present in the stack: \n");
			for(int i=Top;i>=0;--i)
				printf("%d\n",inp_array[i]);
		}
}
```


D:\data structures lab\stack nota.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
merge sort.c stack notations.c merge.cpp [*] stack nota.cpp
Line: 72 Col: 1 Sel: 0 Lines: 73 Length: 1177 Insert Done parsing in 0.016 seconds
73°F Partly sunny
ENG IN
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```c
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        scanf("%d",&choice);
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void Push()
{
    int x;
    if(Top==Size-1)
```

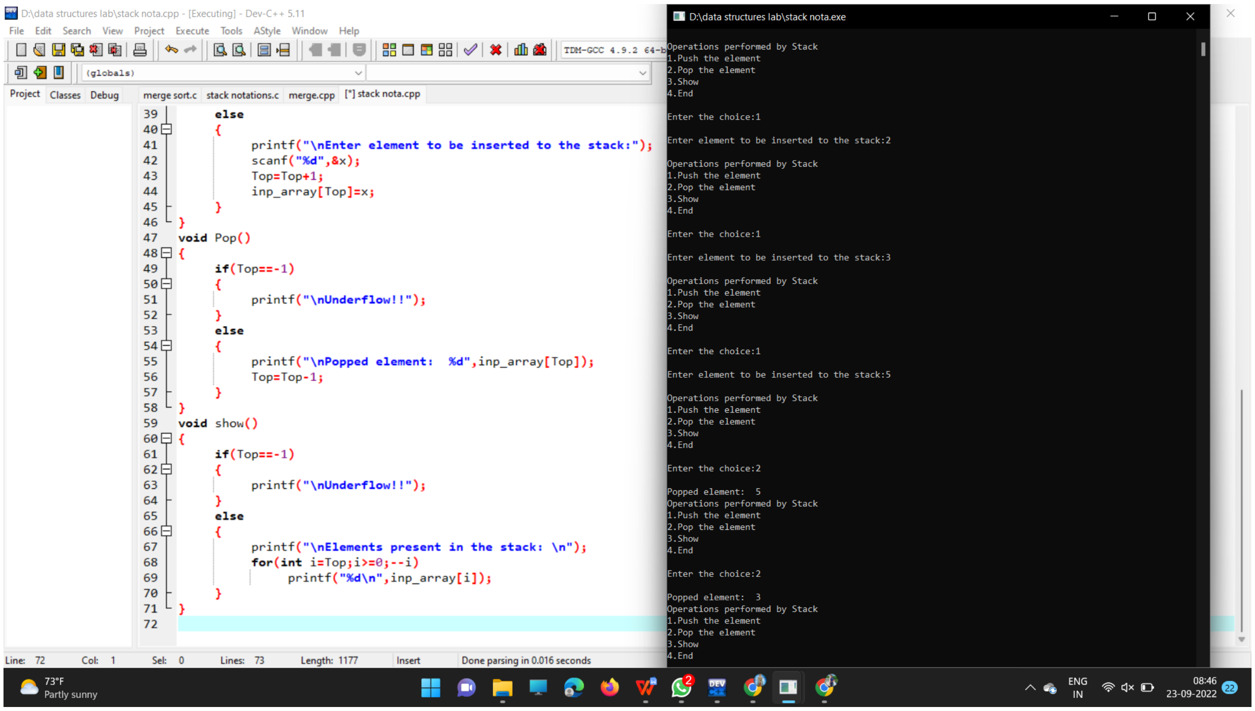
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```c
    else
    {
        printf("\nEnter element to be inserted to the stack:");
        scanf("%d",&x);
        Top=Top+1;
        inp_array[Top]=x;
    }
}
void Pop()
{
    if(Top==-1)
    {
        printf("\nUnderflow!!");
    }
    else
    {
        printf("\nPopped element:  %d",inp_array[Top]);
        Top=Top-1;
    }
}
void show()
{
    if(Top==-1)
    {
        printf("\nUnderflow!!");
    }
    else
    {
        printf("\nElements present in the stack: \n");
        for(int i=Top;i>=0;--i)
            printf("%d\n",inp_array[i]);
    }
}

```

```
Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:1

Enter element to be inserted to the stack:2

Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:1

Enter element to be inserted to the stack:3

Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:1

Enter element to be inserted to the stack:5

Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:2

Popped element:  5
Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End

Enter the choice:2

Popped element:  3
Operations performed by Stack
1.Push the element
2.Pop the element
3.Show
4.End
```