

1. write program to simulate working of stack using array with the following

- a) push
- b) pop
- c) display

Ans #include <stdio.h>

#define n 10

int s[10], top = -1;

void push()

{

if (top == (n-1))

{ printf("stack is full\n");

}

else

{

int item;

printf("Enter the element: \n");

scanf("%d", &item);

top++;

s[top] = item;

}

}

void pop()

{

if (top == -1)

{

printf("stack is empty\n");

}

else

{ printf("Popped element is: %d\n", s[top]);

top--;

}

}

```
void display()
{
    int i;
    printf("The element in stack are\n");
    for (i = top; i >= 0; i--)
    {
        printf("%d \t", stack[i]);
    }
}
```

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```
void main()
{
    int choice;
    case
    while(1) {
        printf("1 for push, 2 for pop, 3 for display, 4 for exit\n");
        printf("Enter choice:");
        scanf("%d", &choice);
        switch(choice)
        {
```

```
    case 1:
        push();
        break;
```

```
    case 2: pop();
        break;
```

```
    case 3: display();
        break;
```

```
    case 4: exit(0);
```

```
    default:
        printf("Invalid input\n");
    }
}
```

}

}

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output:

1 for push, 2 for pop, 3 for display, 4 to exit
enter the choice 1
enter the element to be inserted : 10

1 for push, 2 for pop, 3 for display, 4 to exit
enter the choice 1
Enter the element to be inserted : 20

1 for push, 2 for pop, 3 for display, 4 to exit
enter the choice 3
element in stack are : 20 10

1 for push, 2 for pop, 3 for display, 4 to exit
enter the choice 2
Popped element is 20

1 for push, 2 for pop, 3 for display, 4 to exit
enter the choice 4

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