

observation

Write a program to simulate the working of stack using an array

- a) push
- b) pop
- c) Display

The program should print appropriate messages for stack overflow & underflow

Ex.

⇒

```
#include <stdio.h>
```

```
int stack[100], choice, n, top, x, i;
```

```
void push(void);
```

```
void pop(void);
```

```
void display(void);
```

```
int main()
```

{

```
    clrscr();
```

```
    top = -1;
```

```
    printf("\n Enter the size of stack [MAX=100]:");
```

```
    scanf("%d", &n);
```

```
    printf("\n stack operations using array");
```

```
    printf("\n\t - - - - -");
```

```
    printf("\n\t 1. PUSH\n\t 2. POP\n\t 3. DISPLAY\n\t 4. Exit");
```

```
do
```

```
{    printf("\n Enter the choice:");
```

```
    scanf("%d", &choice);
```

```
    switch(choice)
```

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

```
            break;
```

case 2: {

pop();

break;

}

case 3: {

display;

break;

}

case 4: {

printf("Inlt Exit point");

break;

}

default:

{

printf("Inlt Please Enter a valid choice

}

("1/2/3/4");

}

}

while (choice != 4);

return 0;

void push()

{ if (top >= n-1)

{ printf("Inlt Stack is over flow");

}

else {

printf("Enter a value to be pushed:");

scanf("%d", &u);

top++;

stack[top] = u; }


```
void pop()
```

```
{ if (top <= -1) {
```

```
    printf("\n\t Stack is under flow");  
}
```

```
else {
```

```
    printf("\n\t The popped elements is .1.d", stack[top]);  
    top --;
```

```
}
```

```
}
```

```
void display()
```

```
{ if (top >= 0)
```

```
{ printf("\n The elements in stack \n");
```

```
for (i = top; i > 0; i --)
```

```
    printf("\n .1.d", stack[i]);
```

```
    printf("\n Press next choice");
```

```
}
```

```
else {
```

```
    printf("\n The stack is empty");
```

```
}
```

```
}
```