28.9.20

Data Structure lab- program 1.

→ Write a program to simulate the working of stack using an array with: a) Push, b) Pop, c) Display
program should print appropriate messages for stack overflow and underflow.

Pseudo code / Algorithm.

→
```
#include <stdio.h>
int stack [15], choice, n, top, x, i;
void push (void);
void pop (void);
void display (void);
int main ()
{
    top = -1;
    printf ("Enter size of stack : \n");
    scanf ("%d", &n);
    printf ("Stack operations : \n");
    printf ("four operations \n");
do
{
    Enter the desired operation.
    switch statement (switch())
{
    case1 : { push(); }
    case2 : { pop(); }
    case3 : { display }; }
    case4 : { Terminate }; }
}
    while (choice != 4);
    return statement;
```

push

→ void ~~display~~ ()

{

: if statement for stack overflow (top >= n-1)

printf ("stack is overflow"); }

else

{

~~printing~~ enter value to be pushed. (printf(" ");

~~pointer increment~~ ~~using top++~~ scanf(" ");

top ++

}

void pop()

{

stack underflow statement

if (top >= -1)

printf(" ");

}

else

{

printf(" "); [elements to be popped]

top -- ;

}

void display()

{

if (top >= 0)

→ print statement to show elements in stack.

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

}

else

{ print (" "); [stack is empty].

}

}