```
*** MENU***
 1. push
 2. pop
 3. peek
 4. Display
 5. Exit
Enter your choice: 1
Enter the value to push: 2
Insertion success
*** MENU***
 1. push
 2. pop
 3. peek
 4. Display
 5. Exit
Enter your choice: 1
Enter the value to push: 3
Insertion success
*** MENU***
 1. push
 2. pop
 3. peek
 4. Display
 5. Exit
Enter your choice: 4

Stack elements are:
3 2 *** MENU***
 1. push
 2. pop
 3. peek
 4. Display
 5. Exit
Enter your choice: 2

Deleted: 3
*** MENU***
 1. push
 2. pop
 3. peek
 4. Display
 5. Exit
Enter your choice: 3
2
*** MENU***
 1. push
 2. pop
 3. peek
 4. Display
 5. Exit
Enter your choice: 5

Process returned 0 (0x0)   execution time : 91.163 s
Press any key to continue.
```

29/09/25

1) Write a program to simulate the working of stack using an array using with the following

a) Push
b) Pop
c) Peek
d) Display

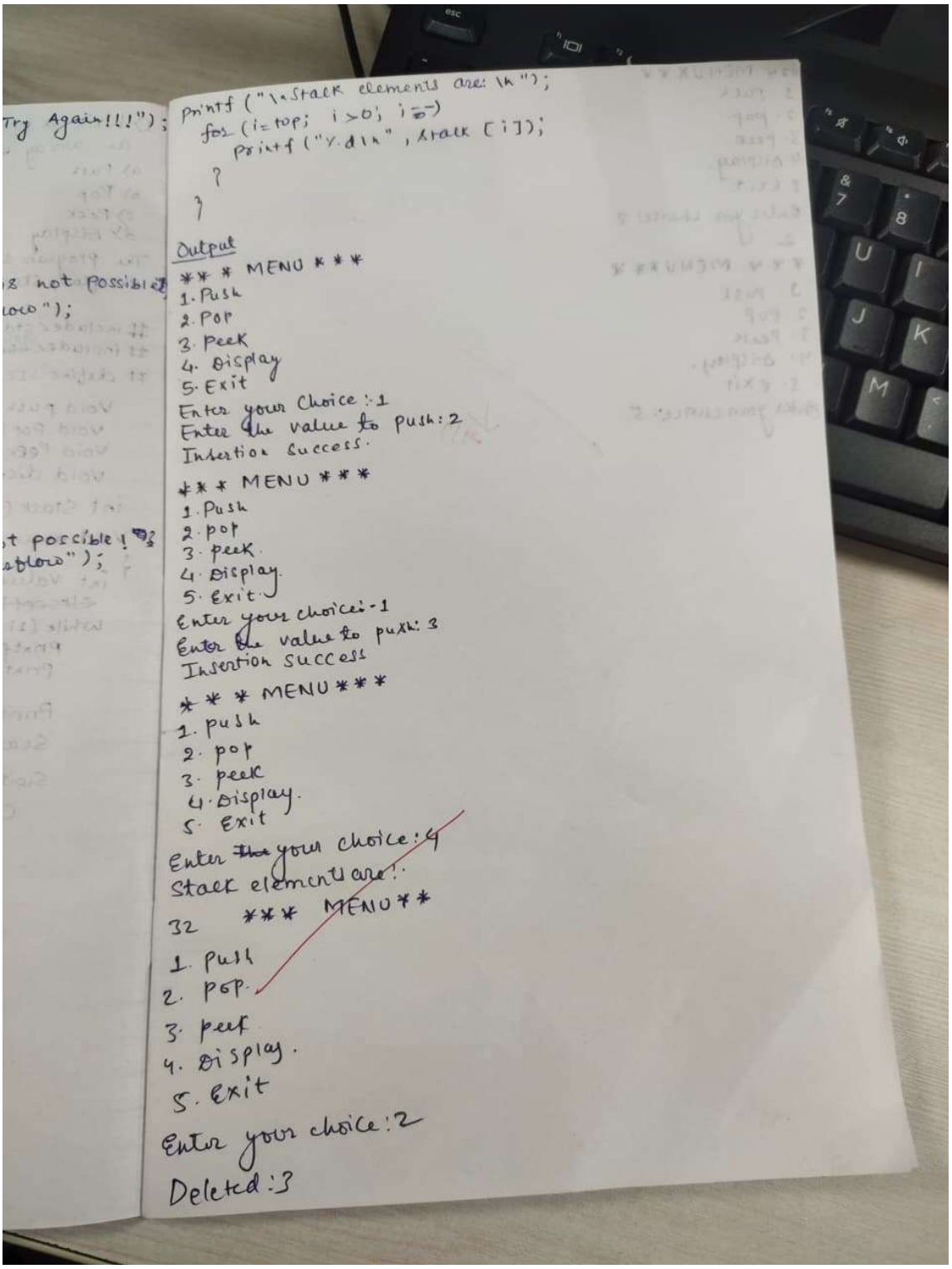
The program should print appropriate message for stack overflow, stack underflow

```
#include<stdio.h>
#include<conio.h>
# define SIZE 10
   Void push(int);
   Void Pop();
   Void Peek();
   Void display();
 int Stack[SIZE], top=-1;
Void main()
{ int value, choice;
   clrscr();
   While(1){
      Printf(" *** MENU*** \n");
      Printf("1. Push \n 2. POP \n 3. Peek \n 4.Display \n
              5. Exit");
      Printf("Enter your choice: ");
      Scanf("%d", &choice);
      Switch(choice){
        Case1: printf("Enter the Value to be inserted :");
               scanf("%d", &value);
               Push(value);
               break;
        Case 2: POP();
               break;
        Case 3; Peek display();
               break;
        case 4: display();
               break;
        Case 5: exit(0);
```

```
    default: printf("\n Wrong selection!!! Try Again!!!");
    }
  }
}

Void push (int value) {
  if (top == SIZE-1)
    Printf ("\n Stack is Full!!! Insertion is not possible!!!
                                  \n Stack overflow");
  else {
    top++;
    stack[top]=value;
    Printf("\n Insertion Success!");
  }
}

Void pop () {
  if (Top == -1)
    Printf("\n Stack is empty, deletetion not possible!!!
                                  \n Stak underflow");
  else {
    printf("\n Deleted: %d", stack[top]);
    top--;
  }
}

void peek () {
  if (Top == -1)
  { printf ("underflow");
  }
  else
  { printf (" %d ", stak[top]);
  }
}

Void display() {
if (top == -1)
  Printf("\n stak isempty");
else {
  int i;
  for (i=t
    print
  }
}
```

Output

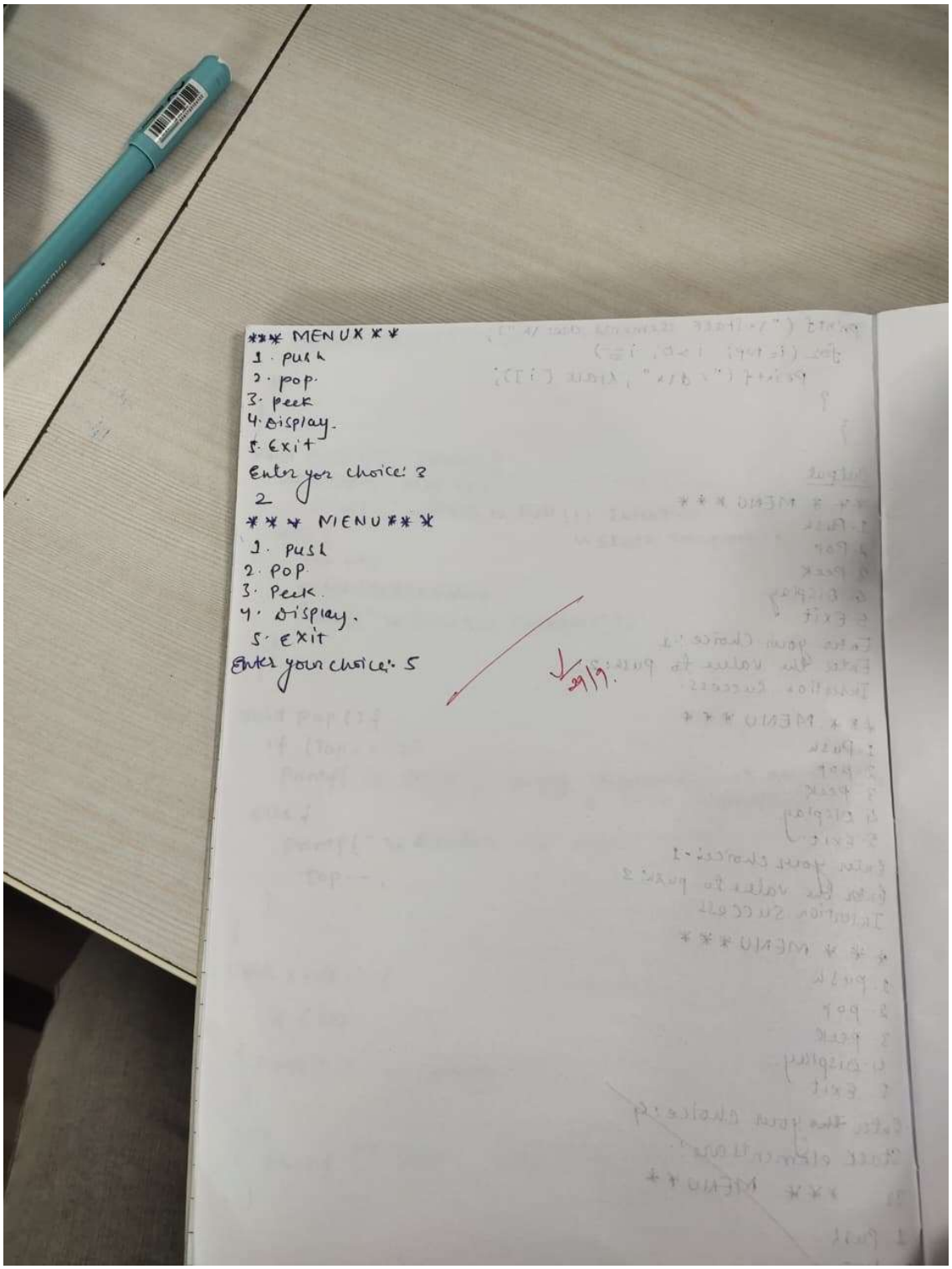
```
*** MEN
1. Push
2. Pop
3. Peek
4. Display
5. Exit
Enter your
Enter the
Insertion

*** MEN
1. Push
2. pop
3. peek
4. Display
5. Exit
Enter your
Enter the v
Insertion

*** M
1. push
2. pop
3. peek
4. Displa
5. Exit
Enter the
Stack el
32 **
1. Push
2. Pop
3. peek
4. Displ
5. Exit
Enter y
Delete
```



```
printf ("\n Stack elements are: \n");
  for (i=top; i>0; i--)
     printf ("%d\n", stack [i]);
  }
}
```

Output

```
*** MENU ***
1. Push
2. Pop
3. Peek
4. Display
5. Exit
Enter your Choice : 1
Enter the value to push: 2
Insertion Success.

*** MENU ***
1. Push
2. pop
3. peek.
4. Display.
5. Exit.
Enter your choice: 1
Enter the value to push: 3
Insertion success

*** MENU ***
1. push
2. pop
3. peek
4. Display.
5. Exit
Enter your choice: 4
Stack elements are:
32
*** MENU **
1. Push
2. Pop.
3. peek
4. Display.
5. Exit
Enter your choice: 2
Deleted: 3
```


*** MENU ***
1. push
2. pop
3. peek
4. display
5. Exit
Enter your choice: 3
2
*** MENU ***
1. push
2. pop
3. Peek
4. Display
5. EXit
Enter your choice: 5
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