

main.py

```
1 #Keshav_Mathur_21107049_Mechanical
2 #Q1
3 str1="Python is a case sensitive language"
4 print(len(str1))
5 print(str1[::-1])
6 print(str1[10::])
7 print(str1.replace("case sensitive,", "object oriented"))
8 print(str1.find('a'))
9 print(str1.replace(" ", ""))
```

input

```
a case sensitive language
Python is a case sensitive language
10
Pythonisacasesensativelanguage

...Program finished with exit code 0
Press ENTER to exit console.
```

```
main.py
1 #Keshav_Mathur_21107049_Mechanical
2 #Q2
3 Name =input("Name: ").strip().title()
4 SID =input("SID: ")
5 Department=input("Branch: ").strip().title()
6 CGPA =input("CGPA: ")
7 print("Hey," , Name, "here!")
8 print("My SID is:" , SID)
9 print("I am", Name, "from", Department, "and my CGPA is", CGPA)
```

input

```
Name: keshav mathur
SID: 21107049
Branch: mechanical engineering
CGPA: 9.9
Hey, Keshav Mathur here!
My SID is: 21107049
I am Keshav Mathur from Mechanical Engineering and my CGPA is 9.9
```

```
...Program finished with exit code 0
Press ENTER to exit console.
```

main.py

```

1  #Keshav_Mathur_21107049_Mechanical
2  #Q3
3  a=56
4  b=10
5  print(a&b)
6  print(a|b)
7  print(a^b)
8  print("Left shift a with 2 bits:" , a<<2)
9  print("Left shift b with 2 bits:" , b<<2)
10 print("Right shift a with 2 bits:" , a>>2)
11 print("Right shift b with 4 bits:" , b>>4)
12

```

input

```

8
58
50
Left shift a with 2 bits: 224
Left shift b with 2 bits: 40
Right shift a with 2 bits: 14
Right shift b with 4 bits: 0

...Program finished with exit code 0
Press ENTER to exit console.

```

main.py

```
1 #Keshav_Mathur_21107049_Mechanical
2 #Q4
3 a=input("Word: ")
4 if 'name' in a:
5     print("Yes, The word 'name' is present in" , a)
6 else:
7     print("No, The word 'name' is present in" , a)
```

input

Word: kjjgjhfsjhanamehhdkg
Yes, The word 'name' is present in kjjgjhfsjhanamehhdkg

...Program finished with exit code 0
Press ENTER to exit console.

main.py

```
1 #Keshav_Mathur_21107049_Mechanical
2 #Q5
3 x=int(input("First side: "))
4 y=int(input("Second side: "))
5 z=int(input("Third side: "))
6 i=str(bool(x+y>z and y+z>x and x+z>y)).replace(str(True), "Yes, Triangle exists.").replace(str(False), "No, Triangle doesn't exist.")
7 print(i)
```

input

First side: 1
Second side: 2
Third side: 3
No, Triangle doesn't exist.

...Program finished with exit code 0
Press ENTER to exit console.

main.py

```

1 #Keshav_Mathur_21107049_Mechanical
2 #Q6
3 a=int(input("What's a? "))
4 b=int(input("What's b? "))
5
6 c=a^b
7
8 d=str(bin(c))
9 occurence=0
10 start=0
11
12 for i in range(len(d)):
13     j=d.find("1", start)
14     start=j+1
15     occurence += 1
16
17 print("a in binary is:", bin(a).replace("0b", ""))
18 print("b in binary is:", bin(b).replace("0b", ""))
19 print(occurence , "bits need to be flipped")

```

input

```

What's a? 34
What's b? 78
a in binary is: 100010
b in binary is: 1001110
9 bits need to be flipped

...Program finished with exit code 0
Press ENTER to exit console.

```