```python
#question 1

string = 'Python is a case sensitive language'

#a length of string
print("(a)length of the string :",len(string))

#b reversing the string
print("(b)",string[::-1])

#c slicing
print("(c)",string[10:26])

#d replace
new_string = string[:10]+' an object oriented '+ string[26:]
print("(d)",new_string)

#e index of a
print("(e)index of a :",string.find('a'))

#f removing spaces
print("(f)",string.replace(' ',''))
```

```
(a)length of the string : 35
(b) egaugnal evitisnes esac a si nohtyP
(c) a case sensitive
(d) Python is  an object oriented  language
(e)index of a : 10
(f) Pythonisacasesensitivelanguage
```

```
#Question 2

SID=21107054
name=" Ayush Srishti"
department="Mechanical"
CGPA= 9.0

print("Hey," + name + " Here!")
print("My SID is %d" %SID )
print("I am from " + department + " department and my CGPA is ", CGPA)
```

```
Hey, Ayush Srishti Here!
My SID is 21107054
I am from Mechanical department and my CGPA is  9.0
```

```
[29] #Question 3

a = 56
b = 10

# (a)bitwise AND
```

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[21] ney, Ayusn Srisnti nere!
My SID is 21107054
I am from Mechanical department and my CGPA is 9.0

```python
#Question 3

a = 56
b = 10

# (a)bitwise AND
print("(a)a&b=",a&b)

# (b) bitwise OR
print("(b)a|b=",a|b)

# (c) bitwise XOR
print("(c)a^b",a^b)

# (d) Left Shift
print("(d)a << 2 : ", a << 2, " and b << 2: ", b << 2)

# (e) Right Shift
print("(e)a >> 2 :", a >> 2," and b >> 4:", b>> 4)
```

```
(a)a&b= 8
(b)a|b= 58
(c)a^b 50
(d)a << 2 :  224  and b << 2:  40
(e)a >> 2 : 14  and b >> 4: 0
```

[35] # Question 4

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```
(b)a|b= 58
[29] (c)a^b 50
     (d)a << 2 :  224  and b << 2:  40
     (e)a >> 2 : 14  and b >> 4: 0
```

```
# Question 4

user_input = input("Enter input:")
if 'name' in user_input:
    print("yes")


else:
    print("no")
```

```
Enter input:My name is Ayush
yes
```

```
[37] # Question 5

     # user input
     side_1 = int(input("enter first side of triangle :"))
     side_2 = int(input("enter second side of triangle :"))
     side_3 = int(input("enter third side of triangle :"))

     a = side_1 + side_2
     b = side_2 + side_3
     c = side_3 + side_1

     x = (side_1 < b)
     y = (side_2 < c)
```

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```python
# Question 5

# user input
side_1 = int(input("enter first side of triangle :"))
side_2 = int(input("enter second side of triangle :"))
side_3 = int(input("enter third side of triangle :"))

a = side_1 + side_2
b = side_2 + side_3
c = side_3 + side_1

x = (side_1 < b)
y = (side_2 < c)
z = (side_3 < a)

answer = str(x & y & z)
answer = answer.replace("True", "Yes")
answer = answer.replace("False", "No")

print(answer)
```

```
enter first side of triangle :56
enter second side of triangle :65
enter third side of triangle :89
Yes
```

```
[44] #question 6
```

enter third side of triangle :89
Yes

```
#question 6

# user input
a = int(input("Enter 1st no.:"))
b = int(input("Enter 2nd no.:"))

# using binary XOR and convert to string 2
print((str(bin(a ^ b))).count('1'))
```

Enter 1st no.:55
Enter 2nd no.:23
1