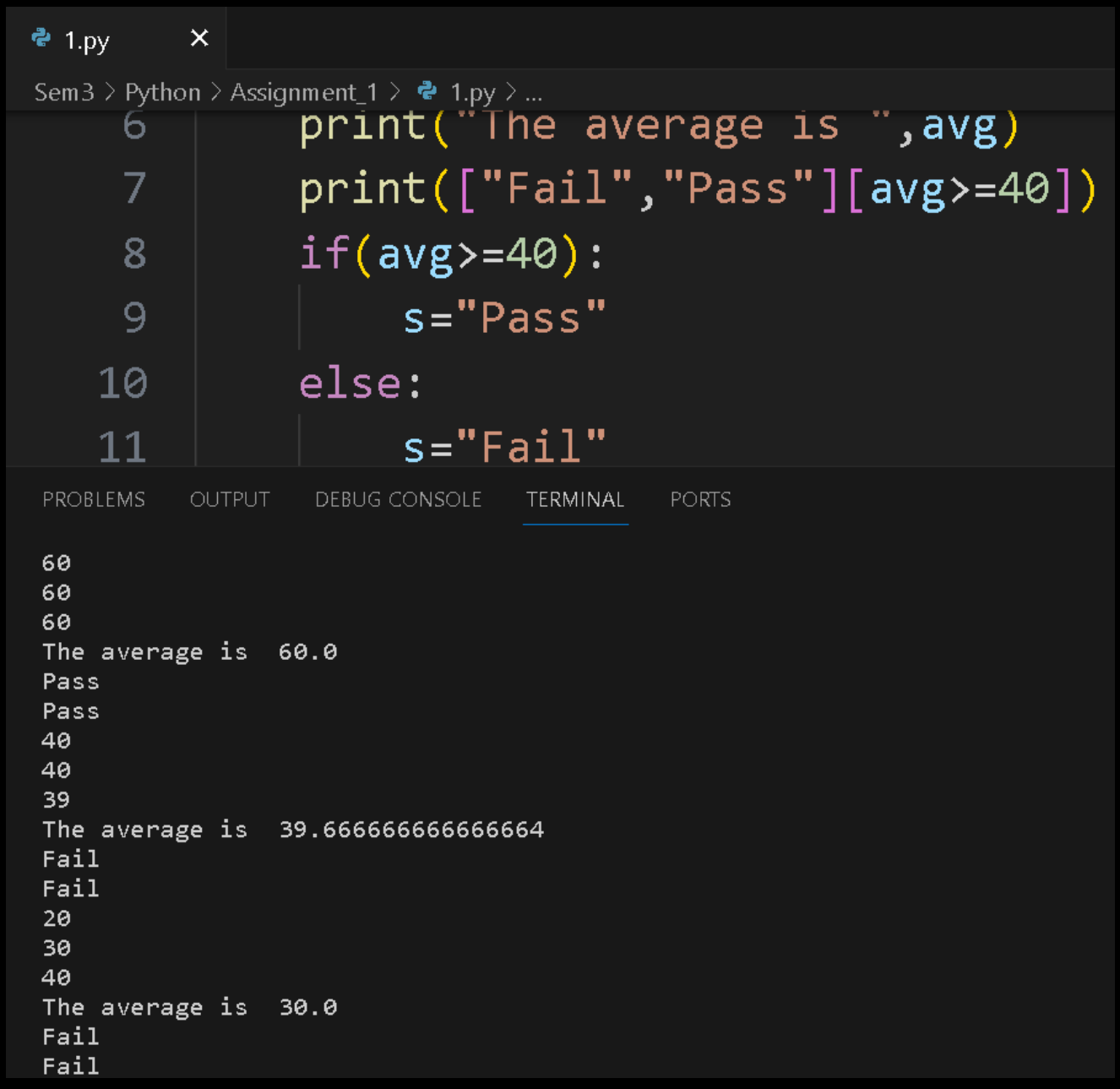
Q1. Write a program that asks the user to input marks of three subjects and computes the average for it. The average should then be compared 40, and the output display should be Pass/Fail depending upon whether the marks are greater/lesser than 40.

Solution Code:

```
a=int(input())
b=int(input())
c=int(input())
avg=(a+b+c)/3
print("The average is ",avg)
print(["fail","pass"][avg>=40])
if(avg>=40):
    s="Pass"
else:
    s="Fail"
print(s)
```

Output:

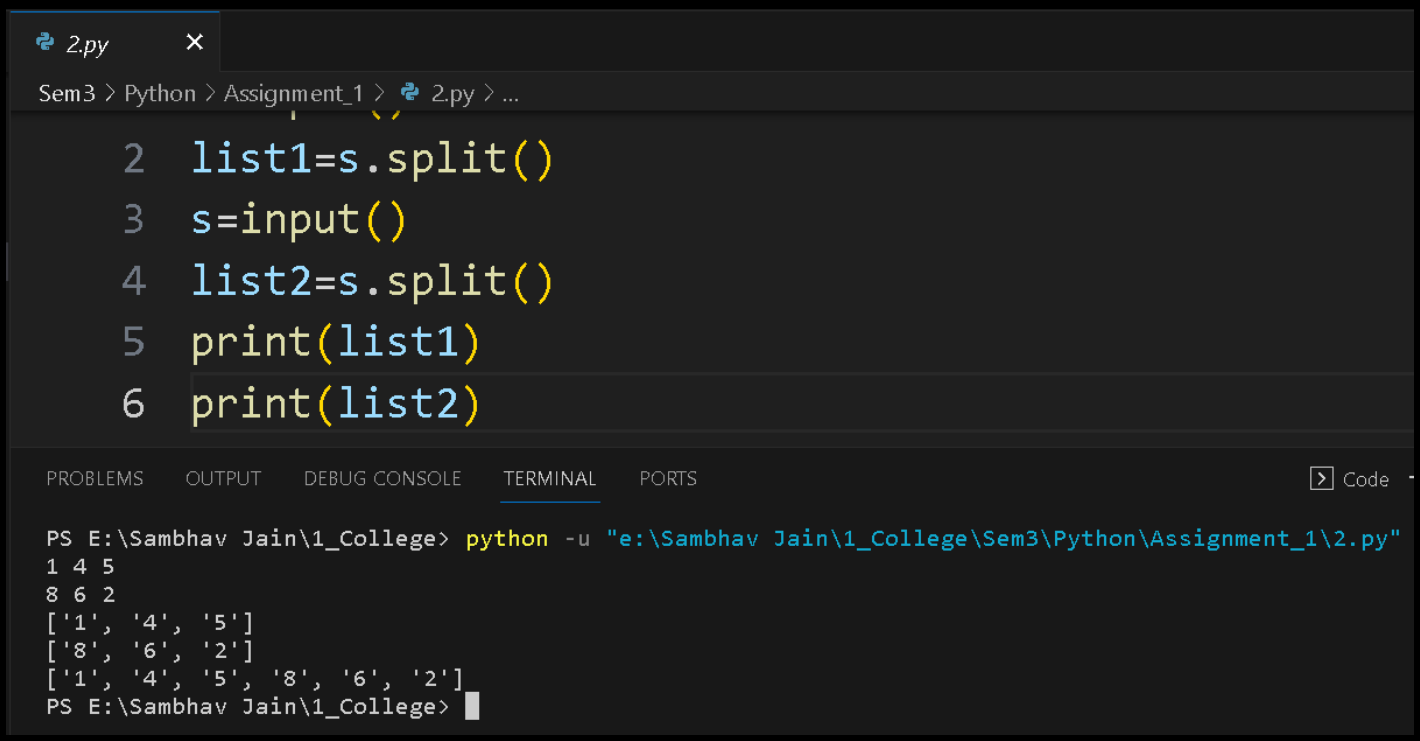


Q2. Write a program that takes two lists as an input and appends them. The second list could either be a single number or a list of numbers.

Solution Code:

```
s=input()
list1=s.split()
s=input()
list2=s.split()
print(list1)
print(list2)
for i in list2:
    list1.append(i)
print(list1)
```

Output:



Q3. Write a program with a function that inputs a string and the output has to be a new string with first letter of every word capitalized. For instance, if the sentence is “Hello how are you." the output should be “Hello How Are You"

Solution Code:

```
s=input()
list1=s.split()
s=""
for i in list1:
    t=chr(ord(i[0])-ord('a')+ord('A'))
    s+=t+i[1:]+" "

print(s)
```

Output:

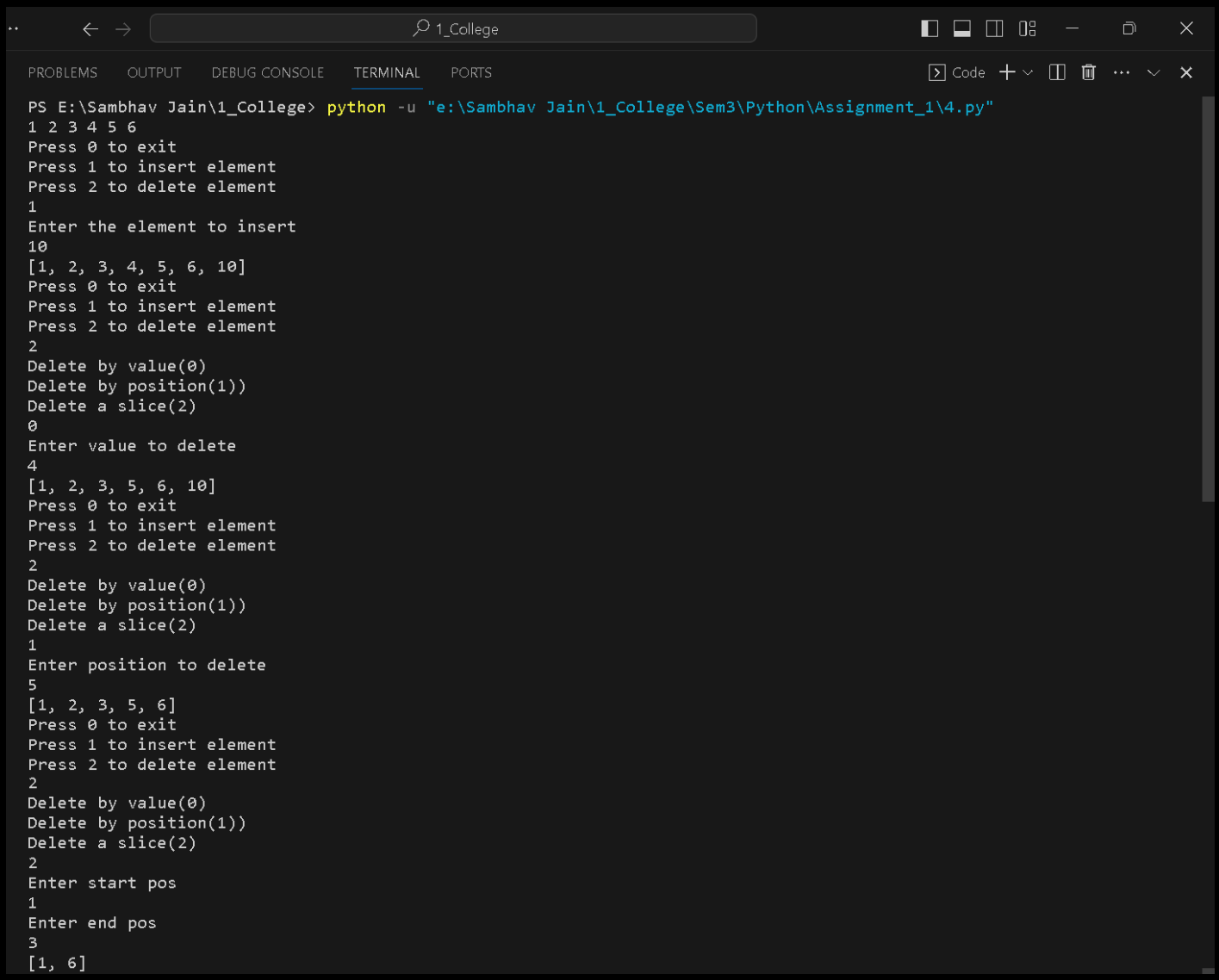
Q4. Write a program for insertion and deletion of elements in a list. On selection of deletion option, a submenu should be displayed to ask if the element is to be deleted by value or by position or a slice of elements has to be deleted and accordingly the output is generated.

Solution Code:

```
s=input()
list1=s.split()
list2=[]
for i in list1:
    list2.append(int(i))
while(True):
    print("Press 0 to exit")
    print("Press 1 to insert element")
    print("Press 2 to delete element")
    n=int(input())
    if(n==0):
        break
    if(n==1):
        print("Enter the element to insert")
        ins=int(input())
        list2.append(ins)
        print(list2)
    if(n==2):
        print("Delete by value(0)")
        print("Delete by position(1))")
        print("Delete a slice(2)")
        opt=int(input())
        if(opt==0):
            print("Enter value to delete")
            val=int(input())
            list2.remove(val)
            print(list2)
        if(opt==1):
            print("Enter position to delete")
            pos=int(input())
            list2.pop(pos)
            print(list2)
        if(opt==2):
            print("Enter start pos")
            start=int(input())
            print("Enter end pos")
```

```
            end=int(input())
            while(end>=start):
                list2.pop(end)
                end-=1
            print(list2)
```

Output:



Q5. Write a program to input a string of numbers separated by a space " ". Generate a list of numbers from this string and sort the list using selection sort.

Solution Code:

```
s=input()
list1=s.split()
list2=[]
for i in list1:
    list2.append(int(i))
sorted_list=[]
while(len(list2)>0):
    next=list2[0]
    for i in list2:
        next=min(next,i)
    list2.remove(next)
    sorted_list.append(next)

print(sorted_list)
```

Output:

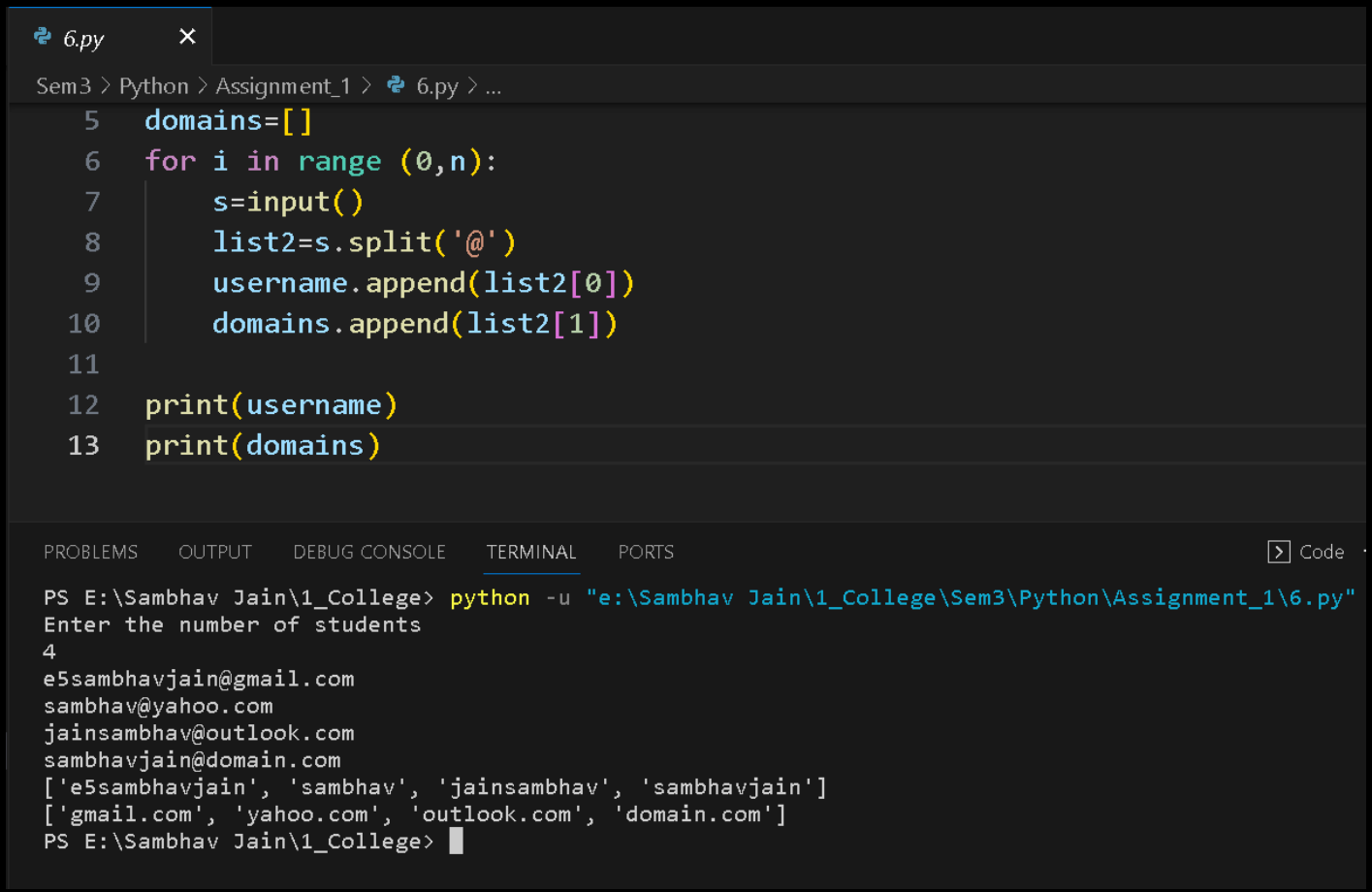
Q6. Write a program which takes email IDs of n students and stores in a tuple. Two new tuples are to be created from it- first one having the user names of the email IDs and the second one having the domain names only. The final output should display all three tuples.

Solution Code:

```
print("Enter the number of students")
n=int(input())
list1=[]
username=[]
domains=[]
for i in range (0,n):
    s=input()
    list2=s.split('@')
    username.append(list2[0])
    domains.append(list2[1])

print(username)
print(domains)
```

Output:



Q7. Write a program that inputs a string and print following information about that string:

Number of alphabets

Number of digits

Number of symbols

Number of uppercase alphabets

Number of lowercase alphabets

Solution Code:

```
s=input()
alphabets=0
digits=0
symbols=0
upper=0
lower=0
for i in s:
    if('a'<=i<='z' or 'A'<=i<='Z'):
        alphabets+=1
        if('a'<=i<='z'):
            lower+=1
        else:
            upper+=1
    elif('0'<=i<='9'):
        digits+=1
    elif(i!=' '):
        symbols+=1

print("alphabets:",alphabets)
print("digits:",digits)
print("symbols:",symbols)
print("upper:",upper)
print("lower:",lower)
```

Output:

7.py

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```
2  alphabets=0
3  digits=0
4  symbols=0
5  upper=0
6  lower=0
7  for i in s:
8      if('a'<=i<='z' or 'A'<=i<='Z'):
9          alphabets+=1
10         if('a'<=i<='z'):
11             lower+=1
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Code

```
PS E:\Sambhav Jain\1_College> python -u "e:\Sambhav Jain\1_College\Sem3\Python\Assignment_1\7.py"
The Quick Br@wn F&x Jump*0s Over3 The2 L@zy1 Dog
alphabets: 32
digits: 4
symbols: 4
upper: 9
lower: 23
PS E:\Sambhav Jain\1_College>
```

Q8. Write a program to find out longest common subsequence from an input string just having the consonants.

SolutIon Code:

```
s=input()
list2=s.split()
list1=['a','e','i','o','u','A','E','I','O','U']
list3=[]
for i in list2:
    s=""
    for j in i:
        if(j not in list1):
            s+=j
    list3.append(s)
    print(s)
maxlength=0
s=""
for i in list3:
    if(len(i)>maxlength):
        maxlength=len(i)
        s=i
print()
print(s)
```

Output:

Q9.Write a program in python that takes a string as input to setup a password. Your entered password must meet the following requirements:

The password must be at least five characters long.

It must contain the symbol “&”.

It must contain at least one uppercase and one lowercase letter.

Solution Code:

```
def func():
    s=input()
    ampersand=0
    upper=0
    lower=0
    for i in s:
        if('a'<=i<='z' or 'A'<=i<='Z'):
            if('a'<=i<='z'):
                lower+=1
            else:
                upper+=1
        elif(i=='&'):
            ampersand+=1
    if(len(s)<5):
        print("password must contain at least 5 character")
    if(ampersand<1):
        print("password must contain at least one '&' character")
    if(upper<1):
        print("password must contain at least 1 uppercase letter")
    if(lower<1):
        print("password must contain at least 1 lowercase letter")
while(True):
    func()
```

Output:

9.py

Sem3 > Python > Assignment_1 > 9.py > ...

```
15          print("password must contain at least 5 character")
16      if(ampersand<1):
17          print("password must contain at least one '&' character")
18      if(upper<1):
19          print("password must contain at least 1 uppercase letter")
20      if(lower<1):
21          print("password must contain at least 1 lowercase letter")
22  while(True):
23      func()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Code

```
PS E:\Sambhav Jain\1_College> python -u "e:\Sambhav Jain\1_College\Sem3\Python\Assignment_1\9.py"
Ab2&
password must contain at least 5 character
abcd
password must contain at least 5 character
password must contain at least one '&' character
password must contain at least 1 uppercase letter
abcde
password must contain at least one '&' character
password must contain at least 1 uppercase letter
ab&cD
ab&cf
password must contain at least 1 uppercase letter
```

Q.10Write a program that takes an integer as an input and generates its binary equivalent.

Solution Code:

```
def func():
    n=int(input())
    bin=0
    list1=[]
    while(n>0):
        list1.append(n%2)
        n=int(n/2)
    for i in reversed(list1):
        bin=bin*10+i
    print(bin)
while(True):
    func()
```

Output: