Name: Abhijhek Panchal Section: B11 Rollno: 150038

Question 1. *(7 points)* Consider the program given below.

```
#include<stdio.h>
#include<string.h>

int cs(char a[20], char b[20]) {
  int c[256];
  int i,j, m,n, r = 0;

  for(i=0;i<256;i++)
    c[i]=0;

  m = strlen(a);
  n = strlen(b);

  if (n != m) return -1;

  for (i=0; i<n; i++)
    c[b[i]]++;

  for (i=0; i<n; i++)
    c[a[i]]--;

  for (i=0; i<256; i++)
    if (c[i]!=0) return -2;

  for (i=n-1, j=n-1; i>=0; ) {
      while (i>=0 && a[i] != b[j]) {
          i--;
          r++;
      }

      if (i >= 0) {
          i--;
          j--;
      }
  }
  return r;
}

int main() {
  char s[20], t[20];
  scanf("%s",s);
  scanf("%s",t);
  printf("Output = %d\n", cs(s,t));
  return 0;
}
```

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s	t	Output of Program
ABC	BAC	Output = ~~1~~ 1 ✓
DEF	DEF	Output = 0 ✓
DWEDF	EFDEW	Output = -2 ✓
RTIURF	TUIRT	Output = -1 ✓
ASDFGF	FGDSAF	Output = 3 ✗
QWEDFDR	QDFREWE	Output = -2 ✓
ASFDSLKJHY	YHLKJFDSAS	Output = 4 ✗

5

A S F D S L K J H Y

Y H L K J F D S A S
0 1 2 3 4 5 6 7 8 9

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Question 2. (3 points) Consider the program given below.

```
1  #include<stdio.h>
2
3  int main()
4  {
5    int n,s,i,j,r=0;
6    printf("Input the number:\n");
7    scanf("%d", &n);
8
9    for (i=1; i<=n; i++){
10     j=i;
11     s=0;
12     while (j != 0) {
13         s = s + j%10 ;
14         j = j/10 ;
15     }
16     r = r + s;
17   }
18   printf("Output = %d\n",r);
19   return 0;
20 }
```

Fill the table given below with the output of the program for the given values of n.

n	Output of Program
19	Output = 100 ✓
15	Output = 66 ✓
22	Output = 109 ✓

3