For Assignment

Q.1) write a c program to print a table of 3.

```
#include<stdio.h>
void main () {
    int n;
    printf("Enter a number\n");
    scanf("%d",&n);
    for ( int i=1 ; i<=10 ; i++) {
        printf(" %d \n", n*i );
    }
}
```

- Enter a number : 3
- Dry Run :

Variables	Conditions	o/p	Increment
i	i<=10	n*i	i++
1	1<=10	3*1 = 3	1+1=2
2	2<=10	3*2 = 6	2+1=3
3	3<=10	3*3 = 9	3+1=4
4	4<=10	3*4 = 12	4+1=5
5	5<=10	3*5 = 15	5+1=6
6	6<=10	3*6 = 18	6+1=7
7	7<=10	3*7 = 21	7+1=8
8	8<=10	3*8 = 24	8+1=9
9	9<=10	3*9 = 27	9+1=10
10	10<=10	3*10 = 30	10+1=11
11	11<=10 X		

Q.2) Write a C program to print odd numbers from 20 to 40

```
#include<stdio.h>
void main (){
    int num1, num2;
    printf("Enter starting number\n");
    scanf("%d\n",&num1);
    printf("Enter Ending number\n");
    scanf("%d\n",&num2);
    for(num1; num1<=num2; num1++){
        if(num1%2>0)
            printf("%d\n", num1);
        }
    }
}
```

→ Enter starting number =20
Enter Ending number =40

Dry Run:

variables		Conditions	o/p	Increment
num1	num2	num1<=num2	num1	num1++
		num1%2>0		
20	40	20<=40	20%2=0 ✗	20+1=21
21		21<=40	21%2>0 21	21+1=22
22		22<=40	22%2=0	22+1=23
23		23<=40	23%2>0 23	23+1=24
24		24<=40	24%2=0	24+1=25
25		25<=40	25%2>0 25	25+1=26
26		26<=40	26%2=0	26+1=27

27	27 <= 40	27 % 2 > 0	27	27 + 1 = 28
28	28 <= 40	28 % 2 = 0		28 + 1 = 29
29	29 <= 40	29 % 2 > 0	29	29 + 1 = 30
30	30 <= 40	30 % 2 = 0		30 + 1 = 31
31	31 <= 40	31 % 2 > 0	31	31 + 1 = 32
32	32 <= 40	32 % 2 = 0		32 + 1 = 33
33	33 <= 40	33 % 2 > 0	33	33 + 1 = 34
34	34 <= 40	34 % 2 = 0		34 + 1 = 35
35	35 <= 40	35 % 2 > 0	35	35 + 1 = 36
36	36 <= 40	36 % 2 = 0		36 + 1 = 37
37	37 <= 40	37 % 2 > 0	37	37 + 1 = 38
38	38 <= 40	38 % 2 = 0		38 + 1 = 39
39	39 <= 40	39 % 2 > 0	39	39 + 1 = 40
40	40 <= 40	40 % 2 = 0		40 + 1 = 41
41	41 <= 40 X			

Q3 write a C program to print even numbers bet^n 50 to 70

```
#include<stdio.h>
void main () {
    int i, j;
    printf("Enter starting number:\n");
    scanf("%d", &i);
    printf("Enter Ending numbers:\n");
    scanf("%d", &j);
    for (i; i<=j; i++) {
        if(i%2==0) {
            printf("%d\n", i);
        }
    }
}
```

Enter starting number : 50
Enter Ending number : 70

Variables		conditions		o/p	Increment
i	j	i<=j	i%2==0	i	i++
50	70	50<=70	50%2==0	50	50+1=51
51	70	51<=70	51%2!=0		51+1=52
52	70	52<=70	52%2==0	52	52+1=53
53	70	53<=70	53%2!=0		53+1=54
54	70	54<=70	54%2==0	54	54+1=55
35	70	55<=70	35%2!=0		55+1=56
56	70	56<=70	56%2==0	56	56+1=57
57	70	57<=70	57%2!=0		57+1=58
58	70	58<=70	58%2==0	58	58+1=59
59	70	59<=70	59%2!=0		59+1=60
60	70	60<=70	60%2==0	60	60+1=61
61	70	61<=70	61%2!=0		61+1=62
62	70	62<=70	62%2==0	62	62+1=63
63	70	63<=70	63%2!=0		63+1=64
64	70	64<=70	64%2==0	64	64+1=65
65	70	65<=70	65%2!=0		65+1=66
66	70	66<=70	66%2==0	66	66+1=67
67	70	67<=70	67%2!=0		67+1=68
68	70	68<=70	68%2==0	68	68+1=69
69	70	69<=70	69%2!=0		69+1=70
70	70	70<=70	70%2==0	70	70+1=71
71	70	71<=70 X			

Q.4) Write a C program to print all divisors of 50

```
#include<stdio.h>
void main () {
        int i,j;
        printf(" Enter starting number :\n");
        scanf("%d", &i);
        printf(" Enter Ending number :\n");
        scanf("%d ", &j);
        for (i; i<=j; i++) {
            if(j%i==0) {
                    printf("%d\n", i);
                }
            }
        }
```

```
Enter starting number : 1
Enter Ending number : 50
```

Variables		Conditions		o/p	Increment
i	j	i<=j	j%i==0	i	i++
1	50	1<=50	50%1==0	1	1+1=2
2	50	2<=50	50%2==0	2	2+1=3
3	50	3<=50	50%3!=0		3+1=4
4	50	4<=50	50%4!=0		4+1=5
5	50	5<=50	50%5==0	5	5+1=6
6	50	6<=50	50%6!=0		6+1=7
!					
!					
50	50	50<=50	50%50==0	50	50+1=51
51	50	51<=50 X			

Q5) write a program to print all the ASCII values of numbers 1 to 128

```
#include<stdio.h>
void main ( ) {
        int i, j;
        printf(" Enter starting number\n:");
        scanf("%d", &i);
        printf(" Enter Ending number \n:");
        scanf("%d", &j);
        for (i; i<=j ; i++) {
                printf ("%c=%d\n", i ,i);
              }
        }
```

- Enter starting number : 1
  Enter Ending number : 128

Variables		Conditions	o/p	Increment
i	j	i<=j	i = j	i++
			%c = %d	
1	128	1<=128	= 1	i+1 = 1
:		:	:	:
49	128	49 <= 128	1 = 49	49+1 = 50
50	128	50 <= 128	2 = 50	50+1 = 51
:	:	:	:	:
65	128	65 <= 128	A = 65	65+1 = 66
:	:	:		
97	128	97 <= 128	a = 97	97+1 = 98

Q.6) write a c program to print characters from A to Z, in upper case and in lower case.

```
#include<stdio.h>
void main () {
        for (int i=65, j=97; i<=90, j<=122; i++, j++){
            printf ("%c = %c \n", i, j);
            }
        }
```

- Dry Run

variables		conditions		o/p	increment
i	j	i<=90	j<=122	i = j %c = %c	i++, j++
65	97	65<=90	97<=122	A = a	66 98
66	98	66<=90	98<=122	B = b	67 99
67	99	67<=90	99<=122	C = c	68 100
68	100	68<=90	100<=122	D = d	69 101
69	101	69<=90	101<=122	E = e	70 102
70	102	70<=90	102<=122	F = f	71 103
71	103	71<=90	103<=122	G = g	72 104
72	104	72<=90	104<=122	H = h	73 105
73	105	73<=90	105<=122	I = i	74 106
74	106	74<=90	106<=122	J = j	75 107
75	107	75<=90	107<=122	K = k	76 108
76	108	76<=90	108<=122	L = l	77 109
:	:	:	:	:	: :
90	122	90<=90	122<=122	Z = z	91 122
91	123	91<=91 X	123<=122 X		

Q.7) write a program to print ~~numbers~~ multiples of 6 upto 60

```
#include <stdio.h>
void main (){
        int n, l;
        printf(" Enter a number : \n");
        scanf("%d", &n);
        printf(" Enter limit number:\n");
        scanf("%d", &l);
        for (int i=1 ; i<=l ; i++){
            if(i%n==0) {
                printf("%d\n", i);
            }
        }
}
```

- Enter a number : 6
- Enter a limit number : 60

variables			conditions		o/p	increment
n	l	i	i<=l	i%n==0	i	i++
6	60	1	1<=60	1%6 != 0		1+1 = 2
		2	2<=60	2%6 != 0		2+1 = 3
		3	3<=60	3%6 != 0		3+1 = 4
		4	4<=60	4%6 != 0		4+1 = 5
		5	5<=60	5%6 != 0		5+1 = 6
		6	6<=60	6%6 == 0	6	6+1 = 7
		7	7<=60	7%6 != 0		7+1 = 8
		8	8<=60	8%6 != 0		8+1 = 9
		9	9<=60	9%6 != 0		9+1 = 10
⋮	⋮	⋮	⋮	⋮	⋮	⋮
		60	60<=60	60%6 == 0	60	60+1 = 61
		61	61<=60 X			

Q.8) write a program to print alphabets in reverse order between y to j

```
#include<stdio.h>
void main (){
        char p,j;
        printf(" Enter starting number:\n");
        scanf("%c",&p);
        printf(" Enter Ending number:\n");
        scanf("%c",&j);
        for(int c=p;c>=j;c--){
            printf("%c\n",c);
        }
    }
```

variable			conditions	o/p	increment
p	j	c=p	c>=j	c	c--
y	j	c=y	y>=j	y	y-1=x
x	j	x	x>=j	x	x-1=w
w	j	w	w>=j	w	w-1=v
v	j	v	v>=j	v	v-1=u
u	j	u	u>=j	u	u-1=t
t	j	t	t>=j	t	t-1=s
s	j	s	s>=j	s	s-1=r
r	j	r	r>=j	r	r-1=q
q	j	q	q>=j	q	q-1=p
p	j	p	p>=j	p	p-1=o
:	:	:	:	:	:
:	:	:	:	:	:
j	j	j	j>=j	j	j-1=i
i	j	i	i>=j	X	

Q.9) write a program to print alternative number in reverse order between 15 to 30

```
#include<stdio.h>
void main (){
        for (int i=30; i>=15; i-=2){
                printf("%d\n", i);
        }
}
```

variables	conditions	o/p	decrement
i	i>=15	i	i-2
30	30>=15	30	30-2=28
28	28>=15	28	28-2=26
26	26>=15	26	26-2=24
24	24>=15	24	24-2=22
22	22>=15	22	22-2=20
20	20>=15	20	20-2=18
18	18>=15	18	18-2=16
16	16>=15	16	16-2=14
14	14>=15 X		

Q.10) write program to print all the numbers that can divide 65

```
#include <stdio.h>
void main (){
        int i,j;
        printf("Enter starting number:\n");
        scanf("%d",&i);
        printf("Enter Ending number:\n");
        scanf("%d",&j);
        for(i;i<=j;i++){
                if(j%i==0)
                        printf("%d\n",j);
        }
}
```

Enter starting number = 1
Enter Ending number = 65

Variables		Condition		O/P	Increment
i	j	i<=j	j%i==0	i	i++
1	65	1<=65	65/1 ==0	~~65~~ 1	2
2		2<=65	65/2 !=0		3
3		3<=65	65/3 !=0		4
4		4<=65	65/4 !=0		5
5		5<=65	65/5 ==0	5	6
6		6<=65	65/6 !=0		7
⋮		⋮	⋮	⋮	⋮
65		65<=65	65/65==0	65	66
66		66<=65 X			