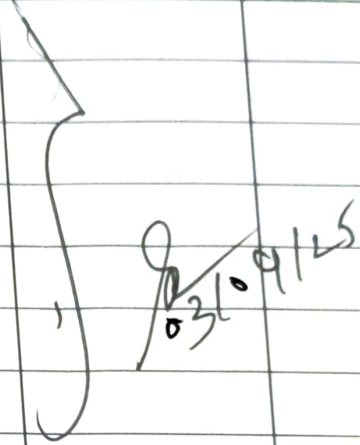


NAME: Arnav Aggarwal
STD: BTech Cse 1st year DIV: B28 ROLL NO.: _____
SUBJECT: Computer Science - Programming in C



INDEX

Sr. NO.	EXPERIMENT	PAGE	DATE OF EXPERIMENT	DATE OF SUBMISSION	REMARKS
1	1-1	1			
2	1-2	1			
3	1-3	2			
4	1-4	3			
5	2-1	4			
6	2-2	5			
7	3-1	6			
8	Exp → 3.2-1				
9	Exp → 3.2-2				
10	Exp → 3.2-3				
11	Exp → 3.2-4				
12	Exp → 3.2-5				
13	Exp → 5-1				
14	Exp → 5-2				
15	Exp → 5-3				
16	Exp → 5-4				
17	Exp → 6-1				
18	Exp → 6-2				
19	Exp → 6-3				
20	Exp → 6-4				
21	Exp → 6-5				

Experiment 3.2 → 1

#include <stdio.h>

int main () {

int num;

int positive = 0, negative = 0, zero = 0;

char choice;

do {

printf ("Enter a number : ");

scanf ("%d", &num);

if (num > 0) {

positive++; }

else if (num < 0) {

negative++; }

else {

zero++; }

printf ("Do you want to enter another number? (y/n): ");

scanf ("%c", &choice);

}

while (choice == 'y' || choice == 'Y');

printf ("\n --- Result --- \n");

printf ("Positive numbers: %d\n", positive);

printf ("Negative numbers: %d\n", negative);

printf ("Zeros: %d\n", zero);

return 0;

}

C exp3-1-5.c

C exp3-2-1.c

C exp3-2-2.c X

C exp3-2-2.c > ...

```
1  #include <stdio.h>
2  int main() {
3      int i , n;
4      printf("enter the number :\n");
5      scanf("%d",&n);
6
7      for (i=1 ; i<=10 ; i++) {
8          printf("%d * %d = %d\n",n,i,n*i);
9      }
10     return 0;
11 }
12
```

4/15



PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PO

PS C:\Users\Yash\EXP> ./a.exe

enter the number :

21

21 * 1 = 21

21 * 2 = 42

21 * 3 = 63

21 * 4 = 84

21 * 5 = 105

21 * 4 = 84

21 * 4 = 84

21 * 5 = 105

21 * 6 = 126

21 * 7 = 147

21 * 8 = 168

21 * 9 = 189

21 * 10 = 210

PS C:\Users\Yash\EXP> |

Ex 3.2.2 →

```
#include <stdio.h>
int main () {
    int num;
    printf ("Enter the no. you want table of : ");
    scanf ("%d", &num);
    for (int i = 1; i <= 10; i++) {
        printf ("%d * %d \n", num * i, num);
    }
    return 0;
}
```

Ex 3.2.3 →

```
#include <stdio.h>
int main () {
    int n = 3;
    int num = 1;
    for (int i = 1; i <= n; i++) {
        for (int j = 1; j <= i; j++) {
            printf ("%d", num);
            num++;
        }
        printf ("\n");
    }
    return 0;
}
```


Go Run Terminal Help



C exp3-1-5.c

C exp3-2-1.c

C exp3-2-2.c

C exp

C exp3-2-3-b.c > ...

```
1  #include <stdio.h>
2
3  int main() {
4      int n = 5;
5      for (int i = 0; i < n; i++) {
6          int val = 1;
7          for (int j = 0; j <= i; j++) {
8              printf("%d ", val);
9              val = val * (i - j) / (j + 1);
10         }
11     }
12     return 0;
13 }
14
```

8/15



PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

6

4

1

PS C:\Users\Yash\EXP> gcc exp3-2-3-b.c

PS C:\Users\Yash\EXP> ./a.exe

1 1 1 1 2 1 1 3 3 1 1 4 6 4 1

PS C:\Users\Yash\EXP>

C exp3-1-5.c

C exp3-2-1.c

C exp3-2-2.c

C exp3-2-3-a.c > main()

```
1  #include <stdio.h>
2
3  int main() {
4      int num = 1;
5      for (int i = 1; i <= 3; i++) { //
6          for (int j = 1; j <= i; j++) {
7              printf("%d", num++);
8          }
9          printf("\n");
10     }
11     return 0;
12 }
13
```

6/15



PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

PS C:\Users\Yash\EXP> ./a.exe

1

23

456

PS C:\Users\Yash\EXP> |

Exp 3.2.4 →

```
#include <stdio.h>
int main () {
    int pop = 100000;
    float growth-rate = 0.10;
    int year;
    printf("year\t pop\n");
    for (year = 1; year <= 10; year++) {
        pop = pop * (1 + growth-rate);
        printf("%d\t %d\n", year, pop);
    }
    return 0;
}
```

exp 3.2.5 →

```
#include <stdio.h>
int main () {
    int limit = 50000;
    int a, b, c, d, n;
    printf("Ramanujan numbers upto %d\n", limit);
    for (a = 1; a * a * a <= limit; a++) {
        for (b = a; a * a * a + b * b * b <= limit; b++) {
            n = a * a * a + b * b * b;
            for (c = a; c * c * c < n; c++) {
                for (d = c; c * c * c + d * d * d <= n; d++) {
                    if (c * c * c + d * d * d == n) {
                        printf("%d = %d^3 + %d^3 = %d^3 + %d^3\n", n, a, b, c, d);
                    }
                }
            }
        }
    }
}
```

C exp3-1-5.c

C exp3-2-1.c

C exp3-2-2.c

C exp3-2-3.c > ...

```
1  #include <stdio.h>
2  int main() {
3      int i , n ,j;
4
5
6      for (i=1 ; i<=6 ; i++) {
7          for(int j=1; j<=i; j++) {
8              printf("%d\n",j);
9          }
10
11      }
12      return 0;
13  }
14
15
```

10/15



PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PC

PS C:\Users\Yash\EXP> gcc exp3-2-3.c

PS C:\Users\Yash\EXP> ./a.exe

```
1
1
2
1
2
```



C exp3-1-5.c

C exp3-2-1.c

C exp3-2-2.c

C exp3-2-4.c > ...

```
1  #include <stdio.h>
2
3  int main() {
4      double population = 100000;
5      double growth_rate = 0.10;
6      int years = 10;
7
8      printf("Year\tPopulation\n");
9      for (int i = 1; i <= years; i++) {
10         population = population + (pop
11         printf("%d\t%.0lf\n", i, popul
12     }
13
14     return 0;
15 }
16
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PC

PS C:\Users\Yash\EXP> ./a.exe

Year	Population
------	------------

1	110000
---	--------

2	121000
---	--------

3	133100
---	--------

4	146410
---	--------

5	161051
---	--------

6	177156
---	--------

7	194872
---	--------

8	214359
---	--------

9	235795
---	--------

12/15

