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S2 CSE B
ROLL: 45

ASSIGNMENT – 1

C PROGRAMMING

1. Write the pseudo code for the C program ,which Input Write a program to print the series 100, 95 , 90, 85,....., 5.

Ans:

PSEUDO CODE

BEGIN
Print the Value of Num
Subtract 5 From Num
Check if num is >= 5
If Yes, continue the loop
If No, Exit the Loop
END

2. Write a C program to print the following pattern:

(a)

(b)

Ans:

(a)

main.c

```c
//C Programming - ASSIGNMENT 1
//2] (a) Write a C program to print Lower Half of a Pyramid
#include <stdio.h>
int main()
{
    int rows, space, i, j;
    printf("Enter the number of Rows:");
    scanf("%d", &rows);

    for(i=1; i<=rows; i++)
    {
        //print Spaces
        for(space=1; space<=rows-i; space++)
        {
            printf(" ");
        }
        //print stars
        for(j=1; j<=2*i-1; j++)
        {
            printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

Output

```
/tmp/S955UDmzAz.o
Enter the number of Rows:5
    *
   ***
  *****
 *******
*********
```

(b)

main.c

```c
//C Programming - ASSIGNMENT 1
//2] (b) Write a C program to print Lower Half of a Pyramid
#include <stdio.h>
int main()
{
    int rows, space, i, j;
    printf("Enter the number of Rows:");
    scanf("%d", &rows);

    for(i=rows; i>=1; i--)
    {
        //print Spaces
        for(space=1; space<=rows-i; space++)
        {
            printf(" ");
        }
        //print stars
        for(j=1; j<=2*i-1; j++)
        {
            printf("*");
        }
        printf("\n");
    }
    return 0;
}
```

Output

```
/tmp/YtrexfhJUe.o
Enter the number of Rows:5
*********
 *******
  *****
   ***
    *


=== Code Execution Successful ===
```

3. Write a C program to display and find the sum of the series 2+22+222+....222 upto n. For eg. if n=4, the series is : 2+22+222+2222.
Take the value of 'n' as input from the user.

Ans:

main.c

```c
//C Programming - ASSIGNMENT 1
//3] Write a C program to display and find the sum of the series
//2+22+222+....222 upto n. For eg: if n=4, the series is:
//2+22+222+2222.
//Take the value of 'n' as input from the user.

#include <stdio.h>
int main() {
    int i, n, sum1 = 0, sum2 = 0, var = 2;

    printf("Enter the value of n:");
    scanf("%d", &n);

    for (i = 1; i <= n; ++i) {

        sum1 = sum1 * 10 + var;
        printf("%d", sum1);
        sum2 = sum2 + sum1;

        if (i < n) {
            printf(" + ");
        }
    }

    printf(" = %d\n", sum2);
    return 0;
}
```

Output

```
/tmp/WqQRIz9GL9.o
Enter the value of n:4
2 + 22 + 222 + 2222 = 2468


=== Code Execution Successful ===
```

4. Write a C program to accept the basic salary of an employee from the user. Calculate the gross salary on the following basis:

Basic	HRA	DA
1 - 4000	10%	50%
4001 - 8000	20%	60%
8001 - 12000	25%	70%
12000 and above	30%	80%

Ans:

main.c

Save Run

```c
//C Programming - ASSIGNMENT 1
//4] Write a C program to accept the basic salary of an employee from the user
//Calculate the gross salary on the following basis:
#include <stdio.h>
int main()
{
    float BS, GS, HRA, DA;

    printf("Enter the Basic Salary (BS): ");
    scanf("%f", &BS);

    if (BS <= 4000) {
        HRA = BS * 0.1;
        DA = BS * 0.5;
    }
    else if (BS <= 8000) {
        HRA = BS * 0.2;
        DA = BS * 0.6;
    }
    else if (BS <= 12000) {
        HRA = BS * 0.25;
        DA = BS * 0.7;
    }
```

```
    else {
        HRA = BS * 0.3;
        DA = BS * 0.8;
    }

    GS = BS + HRA + DA;
    printf("Gross Salary: %0.2f\n", GS);

    return 0;
}
```

Output

```
/tmp/PH7WHcdBrP.o
Enter the Basic Salary (BS): 9000
Gross Salary: 17550.00


=== Code Execution Successful ===
```