1. Write a C program to find the factorial value of any number enter through the keyboard

```
#include<stdio.h>

int main()
{
   int i, n, factorial=1;

   printf("Enter a number: ");
   scanf("%d", & n);
   for (i = 1;i <= n; i++)
   {
      factorial = factorial * i;
   }

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

2. Two numbers are entered through the keyboard Write a program to find the value of one number raised to the power of another number for example X and Y

```
#include <stdio.h>

int main()
{
   int x, y, i, result = 1;

   printf("Enter the base number (X): ");
   scanf("%d", &x);
```

```
    printf("Enter the exponent (Y): ");
    scanf("%d", &y);

    for(i = 1; i <= y; i++)

    {
        result = result * x;
    }

    printf("%d raised to the power %d = %d\n", x, y, result);

    return 0;
}
```

3. Write a program to print the reverse of a number

```
#include<stdio.h>

int main()
{
    int i = 1, n, reminder;

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

    while(n!=0)
    {
        reminder = n % 10;
        n = n/10;
```

```
    printf("%d", reminder);
  }
  return 0;
}
```

4. Write a program to check whether the number is prime or not

```
#include <stdio.h>

int main()
{
  int num, i, count = 0;
  printf("Enter a number: ");
  scanf("%d", &num);

  if (num <= 1)
  {
    printf("%d is not a prime number.", num);
  }
  else
  {
    for (i = 1; i <= num; i++)
    {
      if (num % i == 0)
      {
        count++;
      }
    }

    if (count == 2)
```

```
    {
        printf("%d is a prime number.", num);
    }
    else
    {
        printf("%d is not a prime number.", num);
    }
  }

  return 0;
}
```

5. Write a program to enter a number and then calculate the sum of each digit

```
#include <stdio.h>

int main()

{
  int num, sum, digit;

  printf("Enter a number: ");
  scanf("%d", &num);

  sum = 0;

  while (num > 0)
```

```
    {
        digit = num % 10;
        sum = sum + digit;
        num = num / 10;
    }

    printf("Sum of digits is: %d\n", sum);

    return 0;
}
```

6. Write a program to produce the following output

1.

```
    *
    * *
    * * *
    * * * *
    * * * * *
```

```
#include<stdio.h>

int main()
{
    int x, y, z=5;
```

```
   for (x=0; x<=z; x++)
   {
      for(y=0; y<=x; y++)
      {
         printf("* ");
      }
      printf("\n");
   }

   return 0;

}
```

```
#include<stdio.h>

int main()
{
   int a, b;

   for (a=1; a<=5; a++)
   {
      for (b=1; b<=5-a+1; b++)
      {
         printf("* ");
      }

      printf("\n");
   }
```

```
    return 0;
}
```

2.

```
    1
    1 2
    1 2 3
    1 2 3 4
    1 2 3 4 5
```

```
#include<stdio.h>

int main()
{
    int x, y, z=5;

    for (x=1; x<=z; x++)
    {
        for(y=1; y<=x; y++)
        {
            printf("%d ", y);
        }
        printf("\n");
    }

    return 0;
}
```

3.

```
    1
   1 2
  1 2 3
 1 2 3 4
1 2 3 4 5
```

```
#include<stdio.h>

int main()
{
   int x, y, z=5;

   for (x=1; x<=z; x++)
   {
      for(y=1; y<=z-x; y++)
      {
         printf("   ");
      }
      for(y=1; y<=x; y++)
      {
         printf("%d  ", y);
      }
      printf("\n");
   }
```

```
    return 0;
}
```

4.

```
     *
    * *
   * * *
  * * * *
 * * * * *
```

```
#include<stdio.h>

int main()
{
    int x, y, z=5;

    for (x=1; x<=z; x++)
    {
        for(y=1; y<=z-x; y++)
        {
            printf(" ");
        }
        for(y=1; y<=x; y++)
        {
            printf("* ");
        }
        printf("\n");
```

```
    }

    return 0;
}
```

5.

```
          1
        1 2 1
      1 2 3 2 1
    1 2 3 4 3 2 1
  1 2 3 4 5 4 3 2 1
```

```
#include<stdio.h>

int main()
{
    int x, y, z=5;

    for (x=1; x<=z; x++)
    {
        for(y=1; y<=z-x; y++)
        {
            printf("  ");
        }
```

```
      for(y=1; y<=x; y++)
      {
         printf("%d ", y);
      }
      for(y=x-1; y>=1; y--)
      {
         printf("%d ", y);
      }
      printf("\n");
   }

   return 0;
}
```