

## Assignment - 12 - C language.

①

Q1) Write a Program to Print first N terms of a Fibonacci Series.

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

```
int main()
```

```
{ int i, n, t1=0, t2=1, Next=t1+t2;
```

```
  printf("Enter number");
```

```
  scanf("%d", &n);
```

```
  printf("Fibonacci Series of %d number is : %d, %d, %d", n, t1, t2, Next);
```

```
  for(i=4; i<=n; i++)
```

```
  { t1=t2;
```

```
    t2=Next;
```

```
    Next=t1+t2;
```

```
    printf("%d", Next);
```

```
  }
```

```
  return 0;
```

```
}
```

Q2) Write a Program to Calculate HCF of two numbers.

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

```
int main()
```

```
{ int H, a, b;
```

```
  printf("Enter two numbers");
```

```
  scanf("%d %d", &a, &b);
```

```
  for(H=a<b?a:b; H>=1; H--)
```

```
  { if(a%H==0 && b%H==0)
```

```
    break;
```

```
  }
```

```
  printf("HCF is %d", H);
```

P.T.O

Q3) a) Write a Program to Display following pattern.

```

      *
     **
    ***
   ****
  *****

```

Ans. #include <stdio.h>

int main()

{ int i, j ;

for (i=1 ; i<=4 ; i++)

{ for (j=1 ; j<=4 ; j++)

{ if (j>=5-i && j<=4)

printf ("\*");

else

printf (" ");

} }

printf ("\n");

}

return 0;

}

Q3) b) Write a Program to Display following Pattern.

			*				
		*	*	*			
	*	*	*	*	*		
*	*	*	*	*	*	*	*

#include <stdio.h>

int main()

{ int i, j ;

for (i=1 ; i<=4 ; i++)

{ for (j=1 ; j<=7 ; j++)

{ if (j>=5-i && j<=3+i)

printf ("\*");

else

printf (" ");

}

printf ("\n");

}

return 0;

}

(3)

Q3) Write a Program to display following Pattern.

```

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

```

```

#include <stdio.h>
int main()
{
    int i, j, k;
    for(i=1; i<=4; i++)
    {
        k=1;
        for(j=1; j<=7-i; j++)
        {
            if(j>=5-i && j<=3+i)
            {
                printf("%d", k);
                j<4?k++:k--;
            }
            else
                printf(" ");
        }
        printf("\n");
    }
    return 0;
}

```

Q3) Write a Program to display following Pattern:

```

A B C D
A B C
A B
A

```

```

#include <stdio.h>
int main()
{
    int i, j;
    char k;
    for(i=1; i<=4; i++)
    {
        k='A';
        for(j=1; j<=4-i; j++)
        {
            if(j<=5-i)
                printf("%c", k++);
            else
                printf(" ");
        }
        printf("\n");
    }
    return 0;
}

```

Q3) Write a Program to Display following pattern

```

A B C D C B A
  A B C B A
    A B A
      A
  
```

```

#include <stdio.h>
int main()
{
    int i, j;
    char k;
    for(i=1; i<=4; i++)
    {
        k='A'
        for(j=1; j<=7; j++)
        {
            if(j==i || j==8-i)
            {
                printf("%c", k);
                if(j<4) k++;
            }
            else
                printf(" ");
        }
        printf("\n");
    }
    return 0;
}
  
```

Q4) Write a Program to display following Pattern

```

1 0 0 0 0 0 1
  1 0 0 0 1
    1 0 1
      1
  
```

```

#include <stdio.h>
int main()
{
    int i, j, k;
    for(i=1; i<=4; i++)
    {
        k=1;
        for(j=1; j<=7; j++)
        {
            if(j==i || j==8-i)
                printf("%d", k);
            else if(j>=i+1 || j<=7-i)
                printf("0");
            else
                printf(" ");
        }
        printf("\n");
    }
    return 0;
}
  
```

Q3) h) Write a Program to display following Pattern

```

      *
     * * *
    * * * * *
   * * *
  *

```

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

```
int main()
```

```
{ int i, j;
```

```
for (i=1; i<=5; i++)
```

```
{ for (j=1; j<=5; j++)
```

```
{ if ((j>=4-i && j<=2*(i+1)-i) && (j>=i-2 && j<=8-i))
```

```
{ printf("*");
```

```
}
```

```
else
```

```
printf(" ");
```

```
}
```

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

```
}
```

```
return 0;
```

```
}
```

Q3) i) Write a program to Display following Pattern

```
5 4 3 2 1
```

```
4 3 2 1
```

```
3 2 1
```

```
2 1
```

```
1
```

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

```
int main()
```

```
{ int i, j;
```

```
for (i=5; i>=1; i--)
```

```
{ for (j=i; j>=1; j--)
```

```
printf("%d", j);
```

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

```
return 0;
```

```
}
```