Day : Loops and Iterations (5-8-2025)
1. Write a program to print numbers from 1 to 100.

Input: Get n as a limit upto 100
Process: Use for loop to print the output
Output: Print numbers from 1 to 100

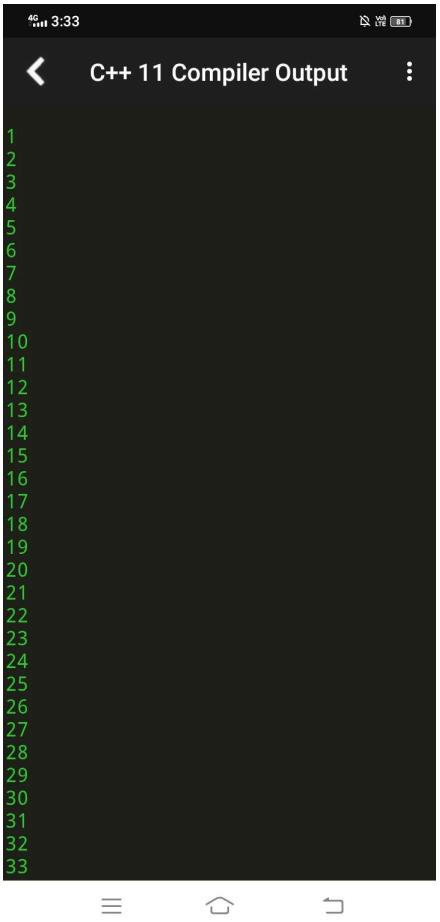
Code:

```
#include <stdio.h>

int main()
 {
    int i;
    for (i = 1; i <= 100; i++)
     {
        printf("%d\n", i);
    }

    return 0;
}
```

Output:


3:33
C++ 11 Compiler Output
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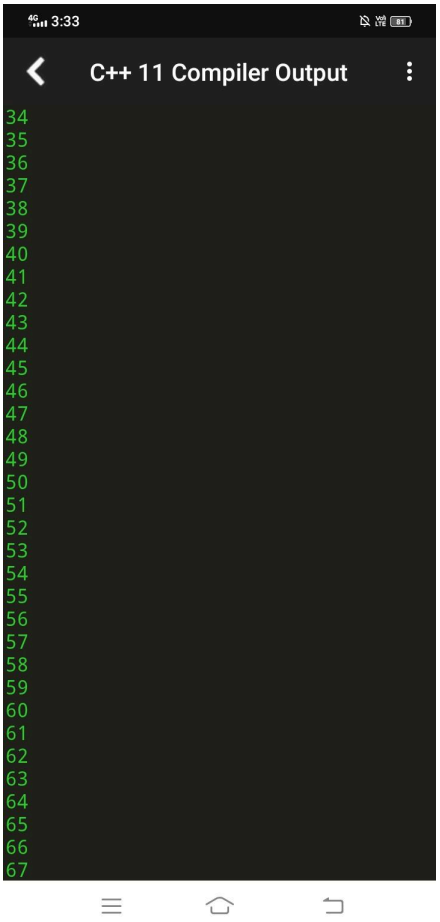
3:33
C++ 11 Compiler Output
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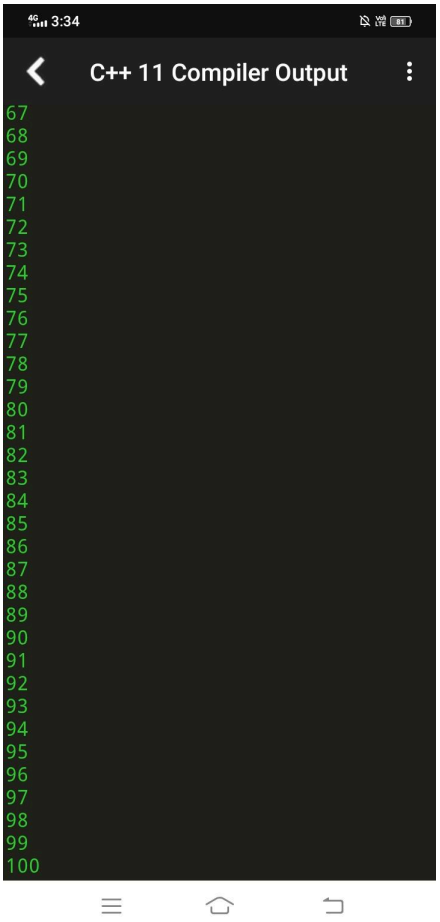
3:34
C++ 11 Compiler Output
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99
100

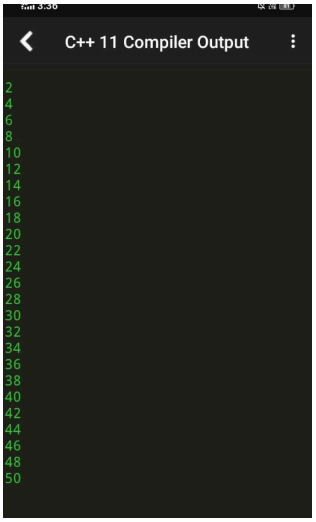
2. Write a program to print even numbers from 1 to 50.

Input: Get n as a limit upto 50
Process: Use for loop to print th output. If (n%2==0) then print the numbers
Output: Print the even numbers between 1 to 50

Code:

```
#include <stdio.h>

int main()
 {
    int i;
    for (i = 1; i <= 50; i++)
     {
        if(i%2==0)
        {
            printf("%d\n",i);
        }
    }

    return 0;
}
```

Output:



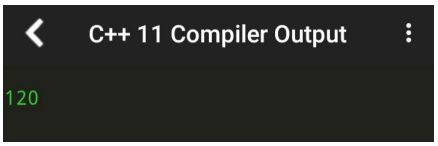
3. Write a program to find the factorial of a number.

Input: Get a number as input say n
Process: factorial= factorial*i
Output: Print the answer

Code:

```
#include <stdio.h>

int main()
 {
    int i,f=1;
    for (i = 1; i <= 5; i++)
     {
        f=f*i;
    }
    printf("%d\n",f);

    return 0;
}
```

Output:



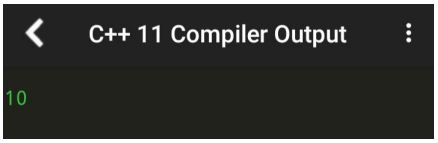
4. Write a program to calculate the sum of digits of a number.

Input: Get a number as input say n
Process: divide the number and get remainder and quotient and then add the digits
Output: Print the sum

Code:

```
#include <stdio.h>

int main()
 {
    int i,n=334,sum=0,r,count=0;
    while(n!=0)
     {
        r=n%10;
        sum=sum+r;
        n=n/10;

    }
    printf("%d\n",sum);

    return 0;
}
```

Output:



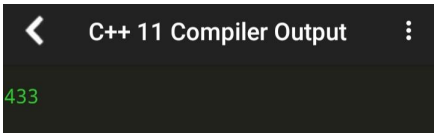
5. Write a program to reverse a number.

Input: Get a number say n
Process: Divide and get the quotient and reverse it by multiplying the n with 10 and add the remainder
Output: Print the reversed n

Code:

```
#include <stdio.h>

int main()
 {
    int i,n=334,rev=0,r;
    while(n!=0)
     {
        r=n%10;
        rev=rev*10+r;
        n=n/10;

    }
    printf("%d\n",rev);

    return 0;
}
```

Output:



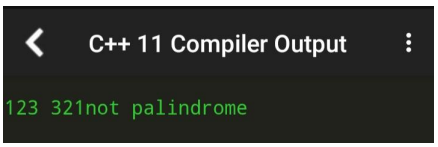
6. Write a program to check whether a number is a palindrome.

Input: Get a number say n
Process: Reverse the digit and add it with remainder and multiply with the n by 100
Output: Print whether the n is palindrome or not

Code:

```
#include <stdio.h>

int main()
 {
    int r,n,v=123;
    int rev=0,c=100;
    printf("%d",v);
    n=v;
    while(n>0)

     {
       r=n%10;
       rev=rev+r*c;
       n=n/10;
       c=c/10;


      }

    printf(" %d",rev);
    if(rev==v)
    printf("palindrome");
    else
    printf("not palindrome");


    return 0;
}
```

Output:


C++ 11 Compiler Output
123 321not palindrome

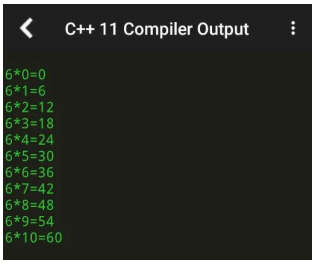
7. Write a program to print multiplication table of a number.

Input: Get a number say nun
Process: Multiply the number using for loop till a limit
Output: Print the tables

Code:

```
#include <stdio.h>

int main()
 {
    int num=6,i;
    for(i=0;i<=10;i++)
    {
    printf("%d*%d=%d\n",num ,i,num*i);
    }


    return 0;
}
```

Output:



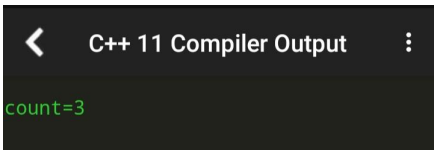
8. Write a program to count the number of digits in a number.

Input: Get a number say n
Process: Divide and get it's remainder and add the count
Output: Print the number of digits

Code:

```
#include <stdio.h>

int main()
 {
    int n=309,count=0,r;
    while(n>0)
    {
    r=n%10;
    count++;
    n=n/10;
    }
    printf("count=%d",count);

    return 0;
}
```

Output:



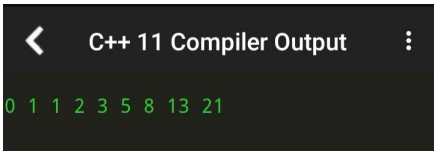
9. Write a program to print the Fibonacci series up to n terms.

Input: Start by initiating 0 and 1 as first two digits
Process: Give the value of first to second and second to third and follow the same steps
Output: Print the Fibonacci series

Code:

```
#include <stdio.h>

int main() {
    int n=8, f=0, s=1, t;
    for (int i = 0; i <= n; i++)
    {
        if (i <= 1)
        {
            t = i;
        } else {
            t=f+s;
            f=s;
            s=t;
        }
        printf("%d ",t);
    }


    return 0;
}
```

Output:



10. Write a program to calculate the sum of the first n natural numbers.

Input: Get a limit n
Process: Use for loop and print the numbers from 1
Output: Print the numbers

Code:

```
#include <stdio.h>

int main()
 {
    int n=30,i,sum=0;
    for(i=0;i<=n;i++)
    {
    sum=sum+i;
    }
    printf("sum=%d",sum);

    return 0;
}
```

Output: