

CSE115L – Computing Concepts Lab

while and do while loop:

<pre>#include<stdio.h> int main() { int i,times; scanf("%d",&times); i = 0; while (i <= times) { i++; printf("%d\n",i); } return 0; }</pre>	<pre>#include<stdio.h> int main() { int i, times; scanf("%d",&times); i = times; while (i >=0) { i--; printf("%d\n",i); } return 0; }</pre>	<pre>#include<stdio.h> int main() { int i,times; scanf("%d",&times); i = 0; do { i++; printf("%d\n",i); } while (i <= times); return 0; }</pre>
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for loop:

<pre>#include<stdio.h> int main() { int i,times; scanf("%d",&times); for(i=0;i<times;i++) { printf("%d\n",i); } return 0; }</pre>	<pre>#include<stdio.h> int main() { int i,times; scanf("%d",&times); for(i=times;i>0;i--) { printf("%d\n",i); } return 0; }</pre>
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Nested for loop:

<pre>#include<stdio.h> int main() { int i; for (i=1; i<=9; i++) { printf("\n"); for (int j=1; j<=i; j++) { printf("%d", j); } } printf("\n"); return 0; }</pre>	<pre>#include<stdio.h> int main() { int i; for (i=1; i<=3; i++) { printf("\n"); for (int j=1; j<=10; j++) { printf("%d X %d = %d\n", i, j, i*j); } } printf("\n"); return 0; }</pre>
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break and continue statements:

```
#include<stdio.h>
int main()
{
    int i=0;
    while (i < 10)
    {
        i++;
        printf("%d\n",i);
        if (i == 5)
            break;
    }
    return 0;
}
```

```
#include<stdio.h>
int main()
{
    int num=10;
    for(int i=0;i<num;i++)
    {
        if(i==4)
            continue;
        printf("%d\n",i);
    }
    return 0;
}
```

Problems:

1. Write a program to show all the even numbers between 0 and 100 inclusive.
2. Write a program that takes an integer as input and shows its factorial.

Sample Output 1:

```
Enter a number: 5
Factorial of 5 is 120
```

Sample Output 2:

```
Enter a number: 8
Factorial of 8 is 40320
```

3. Find the sum of the following series

1+2+3+4+5+.....+N (Take N as input)

4. Print the following patterns. The number of lines in the pattern is user-input. Hint: Use Nested Loop.

1)

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

2)

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