Computer Architecture Assignment : 1
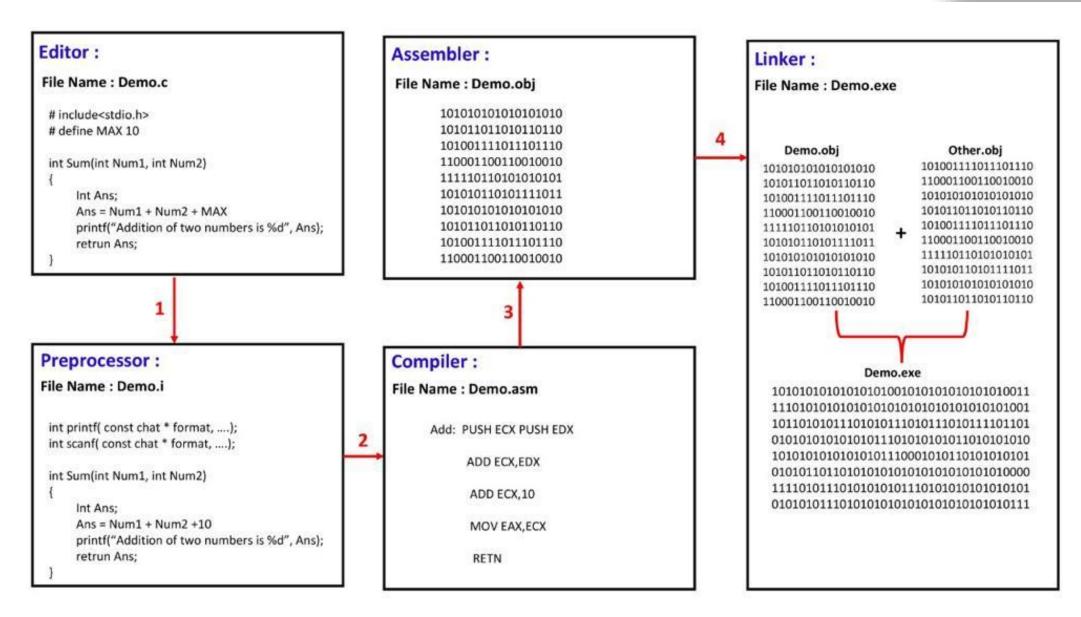
1. What is Toolchain? Elaborate working of every components of Toolchain i.e. Editor, Pre-processor, Compiler, Assembler, Linker, Loader.

2. What are the different tasks of Operating Systems?

3. What Primary Header Contains? Explain in details.

4. Explain in detail Text, Data, Symbol Table and Stack section.

5. Explain the working of ECU, IQ, RCU.

SPLENDID
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Editor :

File Name : Demo.c

```
# include<stdio.h>
# define MAX 10

int Sum(int Num1, int Num2)
{
    Int Ans;
    Ans = Num1 + Num2 + MAX
    printf("Addition of two numbers is %d", Ans);
    retrun Ans;
}
```

Assembler :

File Name : Demo.obj

```
101010101010101010
101011011010110110
101001111011101110
110001100110010010
111110110101010101
101010110101111011
101010101010101010
101011011010110110
101001111011101110
110001100110010010
```

Linker :

File Name : Demo.exe

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Demo.obj	Other.obj
101010101010101010	101001111011101110
101011011010110110	110001100110010010
101001111011101110	101010101010101010
110001100110010010	101011011010110110
111110110101010101	101001111011101110
101010110101111011	110001100110010010
101010101010101010	111110110101010101
101011011010110110	101010110101111011
101001111011101110	101010101010101010
110001100110010010	101011011010110110

+

1

Preprocessor :

File Name : Demo.i

```
int printf( const chat * format, ....);
int scanf( const chat * format, ....);

int Sum(int Num1, int Num2)
{
    Int Ans;
    Ans = Num1 + Num2 +10
    printf("Addition of two numbers is %d", Ans);
    retrun Ans;
}
```

3

Compiler :

File Name : Demo.asm

```
Add:  PUSH ECX PUSH EDX

      ADD ECX,EDX

      ADD ECX,10

      MOV EAX,ECX

      RETN
```

2

Demo.exe

```
1010101010101010101001010101010101010011
1110101010101010101010101010101010101001
1011010101110101011101011101011101101101
0101010101010101110101010101011010101010
1010101010101011100010101101010101010101
0101011011010101010101010101010101010000
1110101110101010101110101010101010101101
0101010111010101010101010101010101010111
```