1. Write a program in C that determines whether a number n is prime or not, where n is input form user at run-time. Now if n is prime number then your program will print the value of n, otherwise it will find the nearest prime number and print that value. [Marks-5]
2. Explain the output of the following code. [Marks-7 (output-1 + step explanation-5]

```c
#include <stdio.h>
int main()
{

    int i, j, x = 0;
    for(i=9; i > 4; i--)
        for(j=4; j<i; ++j)
        {
            printf("%d\t", i - i * j + j);
            x++;
        }
        printf("\n%d", x);
    return 0;

}
```

3. Re-write the following C code where statements used in user defined function will be written inside main function in such a way that both programs will have the same output.[Marks-4]

```c
#include<stdio.h>

int exam(int);

int main()

{

    int k=1, a;

    while(k<4)

    {

        printf("\n%d\n",exam(k++));

    }

    return 0;

}
```

```c
int exam(int i)

{

    int j;

    for(j=0; j<i; j++)

    {

        if((i+j) < i)

        {

            printf("%d ",i*j);

        }

        else

        {

            printf("%d ",i+j);

        }

    }

    return i+j;

}
```