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40) a) USING WHILE STATEMENT

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

```
int main()
```

```
{
```

```
    int n = 20;
```

```
    while(n <= 1000)
```

```
    {
```

```
        printf(" %3d ", n);
```

```
        n+=3;
```

```
    }
```

```
return 0;
```

```
}
```

b) USING FOR STATEMENT

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

```
int main()
```

```
{
```

```
    int i, count;
```

```
    for(i = 20; i<= 1000; i+=3)
```

```
    {
```

```
        printf(" %3d ", i);
```

```
}  
return 0;  
}  
41a) #include<stdio.h>  
int main()  
{  
    int n = 1;  
    do{  
        printf("\n%d", n);  
        n++;  
    }  
    while(n <= 3000);  
    return 0;  
}
```

```
b) #include<stdio.h>  
int main()  
{  
    int n = 1;  
    do{  
        printf("%d,", n);  
        n++;  
    }  
    while(n <= 3000);  
    return 0;
```

```
}  
42) #include<stdio.h>  
int main()  
{  
    int number, i, final;  
  
    printf("Enter a number to show its multiplication table: ");  
    scanf("%d", &number);  
  
    if (number > 10)  
    {  
        printf("This multiplication is not possible");  
    }  
    else{  
        for(i = 1; i <= 12; i++){  
            final = number*i;  
            printf("\n The multiplication of %d * %d = %d", number, i, final);  
        }  
    }  
    return 0;  
}
```

43)

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

```
int main()
```

```

{
    int n, i, p = 0;
    printf("Enter a positive integer: ");
    scanf("%d", &n);

    for(i = 1; i <= n; ++i)
    {
        if(n % i==0)
        {
            p++;
        }
    }
    if(p == 2)
    {
        printf("The number %d is a prime number", n);
    }
    else
        printf("The number %d is not a prime number", n);
    return 0;
}

```

45) #include <stdio.h>

void main()

{

int j,i,n;

```

printf("Input up to the table number starting from 1 : ");
scanf("%d",&n);
printf("Multiplication table from 1 to %d \n",n);
for(i=1;i<=10;i++)
{
for(j=1;j<=n;j++)
{
if (j<=n-1)
printf("%d x %d = %d, ",j,i,i*j);
else
printf("%d x %d = %d",j,i,i*j);

}
printf("\n");
}
}
46) include<stdio.h>
int main()
{
int mark[5]= {1, 2, 3, 4, 5};

printf("%d, %d, %d, %d, %d", mark[4], mark[3], mark[2], mark[1], mark[0]);
}
47) #include<stdio.h>

```

```
int main()
{
    int var;
    int *p;
    p = &var;

    printf("\nValue of variable is: ");
    scanf("%d", &var);
    printf("\nValue of variable is: ");
    scanf("%d", &*p);

    printf("\nAddress of variable is: %p", &var);
    printf("\nAddress of variable is: %p", p);

    //I have used %p as p's value as it represents an address
    printf("\nValue of pointer p is: %p", p);
    printf("\nAddress of pointer p is: %p", &p);

    return 0;
}
48)
49a) #include<stdio.h>
#include<string.h>
int main()
```

```
{
    char str1[50] = "are YOU a NIGERIAN";
    char str2[50] = "I Come from Niger NIGERIA";
    int * result;
    result = strncmp(str1,str2,5);
    printf("result is:%d\n", result);
    return 0;
}
```

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

```
#include<string.h>
```

```
int main()
```

```
{
    char str1[100] = "are YOU a NIGERIAN";
    char str2[100] = "I Come from Niger NIGERIA";
    int * result;
    result = strncmp(str1,str2,10);
    printf("result is:%d\n", result);
    return 0;
}
```

```
50a) #include<stdio.h>
```

```
#include<string.h>
```

```
int main()
```

```
{
    char str1[100] = "My name is Samuel?";
```

```
char str2[100] = "I want to be a good programmer";
char * result;
result = strncat(str1,str2,50);
printf("concatenation result is:%s\n", result);
return 0;
}
```

```
50b) #include<stdio.h>
```

```
#include<string.h>
```

```
int main()
```

```
{
char str1[100] = "My name is Samuel?";
char str2[100] = "I want to be a good programmer";
char * result;
result = strnset(str1,'@',8);
printf("result is:%s\n", result);
return 0;
}
```

```
50c) #include<stdio.h>
```

```
#include<string.h>
```

```
int main()
```

```
{
char str1[100] = "My name is Samuel Samuel?";
char str2[100] = "I want to be a good programmer";
char * lowercase;
```



```
lowercase = strlwr(str1);  
printf("lowercase of str1 is:%s\n", lowercase);  
return 0;  
}
```

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

```
#include<string.h>
```

```
int main()
```

```
{
```

```
char str[10][50], temp[50];
```

```
printf("Enter 10 words: ");
```

```
for(int i = 0; i < 10; ++i)
```

```
{
```

```
    fgets(str[i], sizeof(str[i]), stdin);
```

```
}
```

```
for(int i = 0; i < 10; ++i)
```

```
{
```

```
    for(int j = i + 1; j < 10; ++j)
```

```
    {
```

```
        if(strcmp(str[i], str[j]) > 0)
```

```
        {
```

```
            strcpy(temp, str[i]);
```

```
            strcpy(str[i], str[j]);
```

```
            strcpy(str[j], temp);
```

```

    }
}
}
printf("\nIn the lexicographical order: \n");
for(int i = 0; i < 10; ++i){
    fputs(str[i], stdout);
}
return 0;
}
52) #include<stdio.h>
#include<string.h>
int main()
{
    char str1[50], str2[50];
    printf("Enter a string of words: ");
    gets(str1);
    printf("Enter another string of words: ");
    gets(str2);
    strcat(str1, str2);
    printf("\nConcatenation result of 2 strings is: %s", str1);
    return 0;
}

```