DSTL LAB-2

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E-316

1. Write a program in C to perform the Power Set operation on a set.

   ANS.

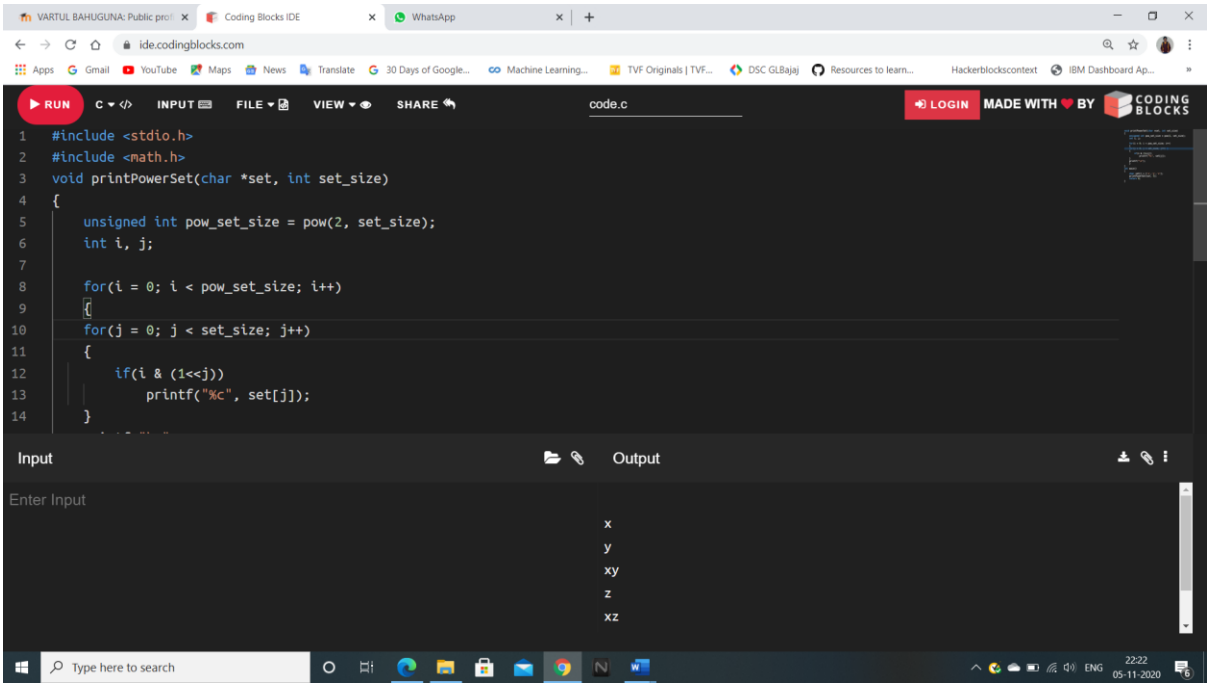
   INPUT:-

```c
#include <stdio.h>
#include <math.h>
void printPowerSet(char *set, int set_size)
{
    unsigned int pow_set_size = pow(2, set_size);
    int i, j;

    for(i = 0; i < pow_set_size; i++)
    {
    for(j = 0; j < set_size; j++)
    {
        if(i & (1<<j))
            printf("%c", set[j]);
    }
    printf("\n");
    }
}
```

```c
int main()
{
    char set[] = {'x','y','z'};
    printPowerSet(set, 3);
    return 0;
}
```

OUTPUT:-



2. Write a program in C to Display the Boolean Truth Table for AND, OR, NOT

ANS.

INPUT:-

```
#include<stdio.h>


void main()
{
 int a[2][2],b[2][2],c[2];
 int i,j;
 for(i=0;i<=1;i++)
 {
 for(j=0;j<=1;j++)
  {
   a[i][j]=(i&&j);
   b[i][j]=(i||j);
  }
 }

 for(i=0;i<=1;i++)
 {
 c[i]=(!i);
 }

 printf("\nThe Truth Table for AND Gate( && ) is..\n");
 printf("   A    B     :    C=A&&B\n");
for(i=0;i<=1;i++)
 {
  for(j=0;j<=1;j++)
   {
    printf("   %d    %d     :    %d\n",i,j,a[i][j]);
   }
 }
```

```
printf("\nThe Truth Table for OR Gate( || ) is..\n");
printf("   A    B     :    C=A||B\n");
for(i=0;i<=1;i++)
{
 for(j=0;j<=1;j++)
  {
   printf("   %d    %d     :    %d\n",i,j,b[i][j]);
  }
}
printf("\nThe Truth Table for NOT Gate (!) is..\n");
printf("   A   :  B = !A\n");
for(i=0;i<=1;i++)
{
  printf("   %d   :  %d\n",i,c[i]);
}
}
```

OUTPUT:-