Q3

```
#include <stdio.h>
int main()
{ int i, j, n, num = 1;
  printf("Enter a num\n");
  scanf("%d", &n);
  for(i=1; i<=n; i++)
  { for(j=1; j<=i; j++)
    { printf("%d ", num);
      num++;
    }
    printf("\n");
  }
}
```

Q4

```
#include <stdio.h>
char grade(int total)
{ if(total >= 90)
  return 'S';
  else if(total >= 75)
  return 'A';
  else if(total >= 60)
  return 'B';
  else if(total >= 50)
  return 'C';
  else if(total >= 40)
  return 'D';
  else
  return 'F';
}
```

```
int main ()
{
   int csub1 , csub2 , csub3 , csub4 , ssub1 , ssub2 , ssub3 , ssub4 ;
   printf ("Enter
   int csub [4] , ssub[4] ;
   int i , total = 0 ;
   for ( i = 0 ; i <= 4 ; i++ )
   {  printf ( "Enter CIE & SEE marks of sub %d \n", i+1 )
      scanf ( "%d %d", &csub[i], &ssub[i] ) ;
   }
   for ( i = 0 ; i <= 4 ; i++ )
   {  printf ("Grade of sub %d : %c \n", i+1 ,
                         grade(csub[i] + (ssub[i]/2))) ;

   printf(
   for(i=0 ; i<=4 ;
        total = total + csub[i] + (ssub[i])/2 ;

   }
   printf ("Overall grade : ", grade( total ) ;

}
```

Q5 :

```
#include <stdio.h>
int main()
{  int i , n1 , n2 , flag = 0 ;
   printf (" Enter two num \n") ;
   scanf ("%d %d", &n1 , &n2 ) ;
   printf (" Prime nums : \n") ;
```

```
for(i=n1; i<=n2; i++)
{ for(j=2; j<=i/2; j++)
  { if(i%j==0) flag=1;
  }
  if(flag==0) printf("%d\n", i);
  flag=0;
}
```

Q6

```
#include<stdio.h>
#include<math.h>
int main()
{ int r, h, c, m=1;
  float a, v, pi=3.14;
  while(m==1)
  { printf("PRESS\n 1) Sphere 2) Cone 3) Cylinder 4) Exit\n");
    scanf("%d", &c);
    switch(c)
    {
      case 1: printf("Enter radius\n");
              scanf("%d", &r);
              a = a*pi*r*r;
              v = (4/3)*pi*r*r*r;
              printf("Area = %f", a);
              printf("Volume = %f", v); continue;

      case 2: printf("Enter r & h\n");
              scanf("%d %d", &r, &h);
              printf("Area = %f", pi*r*(r+sqrt(h*h+r*r)));
              continue;
```

```
case 3 : printf("Enter r & h");
         scanf("%lf %lf", &r, &h);
         printf("Area : %lf", 2*pi*r*r + 2*pi*r*h);
         printf("Volume : %lf", pi*r*r*h);
         continue;
case 4 : n=0; break;
default : printf("Invalid");
    }
  }
}
```

Q7 :

```
#include <stdio.h>
struct course
{ char name[20];
};
int main()
{
  struct course s[3][100];
  int n, i, j, c[3] = {0, 0, 0}, choice;
  char cn[3][10] = {"IOT", "JAVA", "DS"};
  printf("Enter no. of students\n");
  scanf("%d", &n);
  printf("Enter student details\n");
```

```
for(i=0; i<n, i++)
{ printf("1) JOI \n 2) JAVA \n 3) DS");
  scanf("%d", &choice),
  if (choice < 0 || choice > 3)
  { printf("Invalid"); continue; }
  printf("Enter name: \n"),
  scanf("%s", &s[choice-1][c[choice-1]].name);
  c[choice-1]++;
}
disp:
for(i=0; i<3; i++)
{   if(c[i] >= 0)
  { printf("List of course %d: \n", ch[i]);
    for(j=0; j<c[i]; j++)
    { printf("%d %s\n", j+1, s[i][j]);
    }}}
for(i=0; i<3; i++)
{ if(c[i]<3 && c[i]!=-1)
  { printf("Change course! \n")
    for(j=0; j<c[i]; j++)
    { printf("Enter course code: \n");
      scanf("%d", &choice);
      if(choice == i+1) {
        printf("Wrong choice");
        continue; }
      printf("Enter name \n");
      scanf("%s", &s[choice-1][c[choice-1]].name);
      c[choice-1]++;
    }
```

```
            n = c[i];
            c[i] = -1;
        }
    }
    goto loop;
}
```