Assignment-10

① write a function to calculate area of ~~a~~ circle. (TSRS)

Sol:

```
#include <stdio.h>
float area(float);
int main()
{
    float r;
    printf("Enter radius");
    scanf("%f", &r);
    printf("area is %f", area(r));
    return 0;
}
float area(float r)
{
    return 3.14*r*r;
}
```

② write a function to calculate simple interest (T S R S)

Ans:

```
#include <stdio.h>
float interest(float, float, float);
int main()
{
float a, b, c;
printf("Enter the principal, rate and
        amount value\n");
scanf("%f %f %f", &a, &b, &c);
printf("simple interest is %.2f", interest(a,b,c));
return 0;
}
float interest(float P, float R, float T)
{
return (P*R*T)/100;
}
```

③ write a function to check whether a given number is even or odd. return 1 if the number is even, otherwise return 0. (TSRS).

Ans →

```
#include<stdio.h>
int check(int);
int main()
{
    int n;
    printf("Enter a no");
    scanf("%d", &n);
    printf("Returned no is %d", check(n));
    return 0;
}
int check(int n)
{
    if(n%2==0)
    return 1;
    else
    return 0;
}
```

(4) Write a function to print first N natural no. (1 ≤ N)

```
#include <stdio.h>
void print(int);
int main()
{ int n;
printf("Enter the n value");
scanf("%d", &n);
print(n);
return 0;
}
void print(int n)
{ for(i=1; i<=n; i++)
printf("%d", i);
}
```

(5) write a program to print first N odd natural no. (TSRN)

Ans:

```
#include<stdio.h>
void odd(int n);
int main()
{
int n;
printf("enter the n value");
scanf("%d", &n);
odd(n);
return 0;
}
void odd(int n)
{
for(i=1; i<=n; i+=2)
printf("%d", i);
}
```

6) write a function to calculate the factorial of a number. (TSRS)

```
#include<stdio.h>
    int fact(int n);
    int main()
{   int n;
printf("Enter n value");
scanf("%d", &n);
printf("factorial is %d", fact(n));
    return 0;
}
int fact(int n);
{   int a=1
for(i=1; i<=n; i++)
    a=a*i;
return a;
}
```

⑦ write a function to calculate the no of combination one can make from n items and r selected at a time. (TSRS)

Soln:

```
#include<stdio.h>
int fact(int)
int comb(int, int)
int main()
{ int a, b;
printf("enter a and b value");
scanf("%d %d", &a, &b);
printf("combination is %d", comb(a,b));
return 0;
}
int fact(int n)
{ int f=1
for(i=1; i<=n; i++)
f= f*i;
return f;
}
```

```
int comb(int n, int R)
{  int d;
   d = (fact(n))/(fact(n-r) * fact(r));
   return d;
}
```

(8) write a function to ~~find~~ calculate ~~either~~ a ~~given no.~~ no. of arrangement one can make from n item and r selected at a time. (TSRS)

```
#include <stdio.h>
int fact(int);
int per(int, int);
int main()
{  int a, b;
printf("Enter a and b values");
Scanf("%d %d", &a, &b);
printf("No. of arrangement is %d", per(a,b));
   return 0;
}
```

```
int fact(int n)
{ int f=1;
  for(i=0; i<=n; i++)
    f=f*i;
  return f;
}
int per(int n, int r)
{  int d;
  d= fact(n)/fact(n-r);
  return d;
}
```

(9) write a function to check whether a given no. contains a given digit or not.

Ans →

```
#include<stdio.h>
int check(int);
int main()
{ int n; int s;
printf("Enter n value");
scanf("%d", &n);
```

```
    s = check(n);
    if (s == 1)
    printf("digit found");
    else
    printf("doesn't contain digit");

    return 0;
}
```

```
int check (int a)
{ int n, b, c;
  printf("enter the digit");
  scanf("%d", &c);
        n = a;
  while(n != 0)
  { b = n % 10;
    if (b == c)
      break;
    n = n / 10;
  }
  if (b == c)
    return 1;
  else
    return 0;
}
```

(10) write a function to print all prime factors of a given no. for example, if the number is 36 then result should be 2, 2, 3, 3. (TSRN)

Soln →

```
#include<stdio.h>
void prime(int n);
int main()
{
    int n;
printf("Enter the n value");
scanf("%d", &n);
    prime(n);
    return 0;
}
```

```
void prime (int n)
{ for (i=2; n!=1; i++)
  { while (n%i==0)
    { n=n/i;
      printf ("%d", i);
    }
  }
}
```