

//1. Write a function to calculate the area of a circle. (TSRS)

```
#include<stdio.h>

float area(float);

int main()
{
    float r,s;
    printf("Enter a radius");
    scanf("%f",&r);
    s=area(r);
    printf("Area = %f",s);
    return 0;
}

float area(float r )
{
    float c;
    c=3.14*r*r;
    return c;
}
```

//2. Write a function to calculate simple interest. (TSRS)

```
#include<stdio.h>

float si(float, float, float);

int main()
{
    float principle,time, rate,s ;
    printf("Enter the principle(amount):\n");
    scanf("%f",&principle);
    printf("Enter the time:\n");
```

```

scanf("%f",&time);
printf("Enter the rate:\n");
scanf("%f",&rate);
s=si(principle,time,rate);
printf("Simple Interest = %f",s);
return 0;
}

float si(float principle, float time,float rate )
{
    float c;
    c=principle*time*rate/100;
    return c;
}

```

//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)

```

#include<stdio.h>

int even(int);

int main()
{
    int a,s;
    printf("Enter a number:");
    scanf("%d",&a);
    s=even(a);
    printf("Number is :%d",s);
    return 0;
}

int even(int a)
{

```

```
    if(a%2==0)
        return(1);
    else
        return 0;
}
```

//4. Write a function to print first N natural numbers (TSRN)

```
#include<stdio.h>
int even(int);
int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    range(num);

}
void range(int a)
{
    int i;
    for(i=1; i<=a; i++)
        printf("%d\t",i);

}
```

//5. Write a function to print first N odd natural numbers. (TSRN)

```
#include<stdio.h>

int even(int);

int main()
{
    int num;
    printf("Enter a number:");
    scanf("%d",&num);
    range(num);

}

void range(int a)
{
    int i;
    for(i=1; i<=a; i++)
        printf("%d\n",2*i-1);

}
```

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

```
#include<stdio.h>

int fact(int);

int main()
{
    int num,s;
    printf("Factorial of a number:");
    scanf("%d",&num);
    s=fact(num);
```

```

printf("Factorial is %d",s);
return 0;

}

int fact(int a)
{
    int i,f=1;
    for(i=1; i<=a; i++)
        f=f*i;
    return f;
}

```

//7. Write a function to calculate the number of combinations one can make from n items  
 //and r selected at a time. (TSRS)

```

#include<stdio.h>

int comb(int,int);

int main()
{
    int x,y;
    printf("Enter the values of x and y:");
    scanf("%d%d",&x,&y);
    printf("%d",comb(x,y));
    return 0;
}

int fact(int n)
{
    int i,fact=1;
    for(i=1; i<=n; i++)

```

```

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

```

//8. Write a function to calculate the number of arrangements one can make from n items  
//and r selected at a time. (TSRS)

```

#include<stdio.h>
int perm(int,int);
int main()
{
    int x,y;
    printf("Enter the values of x and y:");
    scanf("%d%d",&x,&y);
    printf("%d",perm(x,y));
    return 0;
}
int fact(int n)
{
    int i,fact=1;
    for(i=1; i<=n; i++)
        fact=fact*i;
    return fact;
}
int perm(int n,int r)
{

```

```
return fact (n)/fact (r);  
}
```