**Assignment-10**

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

Ans-#include<stdio.h>

float area(float);

int main()

{

float r;

printf("enter the radius of the circle: ");

scanf("%f",&r);

printf("The area of the circle is %f",area(r));

}

float area(float a)

{

return (3.14\*a\*a);

}

1. Write a function to calculate simple interest. (TSRS)

Ans-#include<stdio.h>

float interest(float,float,int);

int main()

{

float r,p;

int t;

printf("enter amount,rate,time: ");

scanf("%f%f%d",&p,&r,&t);

printf("Total amount %f",interest(p,r,t));

}

float interest(float a,float b,int c)

{

return ((a\*b\*c)/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 oddoreven(int);

int main()

{

int a;

printf("enter a number: ");

scanf("%d",&a);

if(oddoreven(a)==1)

printf("%d is even",a);

else

printf("%d is odd",a);

}

int oddoreven(int x)

{

if(x%2==0)

return 1;

else

return 0;

}

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

Ans-#include<stdio.h>

void print(int);

int main()

{

int a;

printf("enter a number: ");

scanf("%d",&a);

print(a);

}

void print(int x)

{

int i;

for(i=1;i<=x;i++)

printf("%d ",i);

}

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

#include <stdio.h>

void oddprint(int x)

{

int i;

for(i=1;i<=x;i++)

printf("%d ",(2\*i-1));

}

int main()

{

int n;

printf("enter N value");

scanf("%d",&n);

oddprint(n);

return 0;

}

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

Ans-#include<stdio.h>

int fact(int);

int main()

{

int a;

printf("enter a number: ");

scanf("%d",&a);

printf("Factorial of %d is %d",a,fact(a));

}

int fact(int x)

{

int i,fact=1;

for(i=x;i>=1;i--)

{

fact=fact\*i;

}

return fact;

}

7. Write a function to calculate the number of combinations one can make from n items

and r selected at a time. (TSRS)

Ans- #include <stdio.h>

int fact(int x)

{

int i,fact=1;

for(i=1;i<=x;i++)

{

fact=fact\*i;

}

return fact;

}

int comb(int n,int r)

{

int x;

return fact(n)/(fact(r)\*fact(n-r));

}

int main()

{

int x,y;

printf("enter n and r value");

scanf("%d%d",&x,&y);

printf("number of combinations is %d",comb(x,y));

return 0;

}

8. Write a function to calculate the number of arrangements one can make from n items

and r selected at a time. (TSRS)

Ans- #include <stdio.h>

int fact(int x)

{

int i,fact=1;

for(i=1;i<=x;i++)

{

fact=fact\*i;

}

return fact;

}

int perm(int n,int r)

{

int x;

return fact(n)/fact(n-r);

}

int main()

{

int x,y;

printf("enter n and r value");

scanf("%d%d",&x,&y);

printf("number of combinations is %d",perm(x,y));

return 0;

}

9. Write a function to check whether a given number contains a given digit or not.

(TSRS)

Ans- #include <stdio.h>

int check(int x,int y)

{

int re;

while(x!=0)

{

re=x%10;

if(re==y)

return 1;

x=x/10;

}

return 0;

}

int main()

{

int n,p;

printf("enter a number");

scanf("%d",&n);

printf("enter a digit you check present or not");

scanf("%d",&p);

if(check(n,p))

printf("%d is present in that %d number",n,p);

else

printf("%d is not present in that %d number",n,p);

return 0;

}

10. Write a function to print all prime factors of a given number. For example, if the

number is 36 then your result should be 2, 2, 3, 3. (TSRN)

Ans- #include <stdio.h>

void check(int n)

{

int i;

for(i=2;n!=1;i++)

{

while(n%i==0)

{

printf("%d ",i);

n=n/i;

}

}

}

int main()

{

int n;

printf("enter a number");

scanf("%d",&n);

check(n);

return 0;

}