Functions in C Language

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

#include <stdio.h>

float area(float a);

int main()

{

float a;

printf("enter radius: ");

scanf("%f",&a);

printf("area of circle is %f sq unit",area(a));

}

float area(float a)

{

return 3.14 \* a \* a;

}

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

#include<stdio.h>

float si(float a,float r,float t);

int main()

{

float a,r,t;

printf("enter amount rate and time(in year) respectively: ");

scanf("%f %f %f",&a,&r,&t);

printf("interest after %f time is",si(a,r,t));

}

float si(float a,float r,float t)

{

return( a\*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)

#include<stdio.h>

int odd\_even(int a);

int main()

{

int a;

printf("enter number: ");

scanf("%d",&a);

printf("%d",odd\_even(a));

return 0;

}

int odd\_even(int a)

{

if(a%2==0)

return 1;

return 0;

}

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

#include<stdio.h>

void nat(int n)

{

int i=1;

while(i<=n)

{

printf("%d ",i);

i++;

}

}

int main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

nat(a);

return 0;

}

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

void odd\_nat(int a);

#include<stdio.h>

int main()

{

int a;

printf("enter number: ");

scanf("%d",&a);

odd\_nat(a);

}

void odd\_nat(int a){

for(int i=1;i<=a;i++)

{

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

}

}

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

#include<stdio.h>

int factorial(int a);

int main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

printf("%d",factorial(a));

return 0;

}

int factorial(int a)

{

int fact=1;

for(int i=1;i<=a;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)

#include<stdio.h>

int ncr(int a,int b);

int main()

{

int a,b;

printf("enter value of n and c: ");

scanf("%d %d",&a,&b);

printf(" %d ",ncr(a,b));

}

int ncr(int a, int b)

{

int x=1,y=1,z=1;

for(int i=1;i<=a;i++)

x=x\*i;

for(int i=1;i<=b;i++)

y=y\*i;

for(int i=1;i<=(a-b);i++)

z=z\*i;

// printf("%d %d %d",x,y,z);

return (x/(y\*z));

}

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 npr(int a,int b);

int main()

{

int a,b;

printf("enter value of n and c: ");

scanf("%d %d",&a,&b);

printf(" %d ",npr(a,b));

}

int npr(int a, int b)

{

int x=1,z=1;

for(int i=1;i<=a;i++)

x=x\*i;

for(int i=1;i<=(a-b);i++)

z=z\*i;

// printf("%d %d %d",x,y,z);

return (x/z);

}

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

(TSRS)

#include<stdio.h>

int check(int a,int b)

{

while(a>0){

if(a%10==b)

{

return 1;

}

a=a/10;

}

return 0;

}

int main()

{

int a,b;

printf("enter any number and one digit: ");

scanf("%d %d",&a,&b);

if(check(a,b))

printf("given digit is present in given number");

else

printf("given digit is not present in given number");

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)

#include<stdio.h>

void prime\_factor(int a);

int main()

{

int a;

printf("enter any number: ");

scanf("%d",&a);

prime\_factor(a);

}

void prime\_factor(int a)

{

int i=2;

while(a!=1)

{

if(a%i==0)

{

printf("%d ",i);

a=a/i;

}

else

i++;

}

}