Jaypee University of Engineering & Technology, Guna (M.P.)
Department of Computer Science & Engineering
Course: Computer Programming
(B. Tech. I Sem, Code: CS101)
Tutorial-8
Topic: User defined functions and recursions

1. Find the output of following codes:

<table>
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```
int fun( )              {
int num=5;
printf("%d\n",num);
return num;           }
int main()              {
 int num=7;
 printf("%d\n",fun( )); }
```

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```
int check( int ch)          {
if(ch >= 97)   return 100;
else          return 97;   }
int main()                  {
int i=97;
printf("%c",check (i) );      }
```

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```
int fact(int a, int b)       {
for(a=0; a<=b; a++)
 continue;
return (a==b);        }
void main()              {
int a=7,b=8;
 int c= fact(a, b);
printf("c=%d",c);         }
```

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```
void Recursion(int n)   {
  if(n == 0)
  return;
  printf("%d ",n);
  Recursion(n-1);       }
int main()              {
  Recursion(10);
  return 0;             }
```

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```
void message ( );
int main()              {
message ( );
main( );                }
void message ( )    {
  printf("Hello");    }
```

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```
int doSomething(int a, int b)        {
if (b==1)        return a;
else
  return a + doSomething(a,b-1);   }
int main()                           {
printf("%d",doSomething(2,3));      }
```

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2. Create a user defined function (UDF) **Factors()** to print all the factors of an integer number accepted from the keyboard.

3. Write **user input** C programs using two UDFs for following operations:
   (i)   For choice 1, accepts a decimal number and target base value from keyboard and converts decimal number into any other base number using UDF of **DecimaltoOtherbase()**.
   (ii) For choice 2, accepts a source number and its base value of from keyboard and converts any other base number into decimal number using UDF of **OtherbasetoDecimal( )**.

4. Create a recursive function **Table ()** to print the multiplication table of a given number.

5. Write a user input C program to check whether a given integer number is a palindrome or not using recursion function **Palindrome ()**.