1. Determine what is printed on the screen when `fbb()` is called.
   ```
   int foo(int x, int y) { printf("%d", y); return x+y; }
   void fbb(void){ int x=1;
   printf("%d%d",foo(x,x+1),++x);
   }
   ```
   a) 332  b) 123  c) 523  
   d) 321  e) 352  f) 2323

2. Determine what is printed on the screen when the given program is executed.
   ```
   int main(void){ int i=4;
   do{ switch(--i){ case 1:case 3: printf("%d",i); }
   printf("%d",i);
   } while(i); return 0; }
   ```
   a) 3210  b) 321  c) 332110  
   d) 33211  e) 123  f) 33221100

3. What would be the final value of A after the following code piece is executed?
   ```
   int A=1,m=-3;
   for(;;m+=1) if(!m) break; else A*=m;
   ```
   a) -6  b) 15  c) 2  
   d) -7  e) 14  f) 8

4. The console output of the following code is “m= 4-i3.10”. What could be the format argument of the `printf` function call provided that all arguments are referred?
   ```
   int r=4; float i=3.1,m;
   printf("...",r,i);
   ```
   a) %mf+%i3.1f  b) m=%1.0f+i%3.1f  c) %1f%m%i%f  
   d) m=%2d-i%4.2f  e) m=2+i3.1  f) %1.0c=%2.0f+i%f

5. Determine what is printed on the screen when the given code is executed.
   ```
   char A[]={"ELECTRONIC"}, *B;
   B=&A[5];
   printf("%s%c%c",A+5,A[2],*(--B));
   ```
   a) error  b) RECT  c) TRONICO  
   d) TECRON  e) RETORIC  f) RONICECT

6. Determine what is printed on the screen when the following code is executed.
   ```
   char A[]={"ELECTRONIC"}, *T;
   T=A; while(*T!='T') T++;
   strncpy(A,T-1,5); A[5]=0;
   printf("%s\n",A);
   ```
   a) ELECT  b) CTRON  c) TRONICO  
   d) TRON  e) RONIC  f) TONIC
7. Given the declarations and call to function `farthest()` below, what should be the declaration (prototype) of the function `farthest()`? The function `farthest()` finds the point in the array `A` farthest from `B` and copies it to `C`.

```c
typedef struct {int x,y;} point;
point A[10], B,C;
...
farthest(B,A,10,&C); /* valid function call */
```

a) `int farthest(point X, Y[], N, *Z);`
b) `int farthest(point X, point Y, float N, point &Z);`
c) `void farthest(point X, point Y, int N, point *Z);`
d) `void farthest(int *X, int *Y[], int N, int *Z);`
e) `int farthest(point B, point A, int N, point Z);`
f) `void farthest(point X, int *Y[], int N, point &Z);`

8. The MATLAB function whose first line is `function g=Smalliest(a,b,c)` returns the smallest of three arguments. The function `Smalliestof9()` finds and returns the smallest number in the array `X` by calling `Smalliest()`. What is missing?

1. `function g=Smalliestof9(X)`
2. `a= Smalliest(X(0),X(3),X(6));`
3. `b= Smallest(X(7),X(4),X(1));`
4. `g= Smalliest(a,b,Smalliest(X(2),X(8),X(5)));`
5. `end`

a) indexes are not in correct order  
b) indexes must start from 1  
c) a and b cannot be used in 1,2.  
d) Smallest call in 4 is invalid  
e) g must be returned in 4.  
f) Smalliest cannot be argument of Smalliest

9. Given the following declarations, what does `(*(Z+1)).X[0].A[2]` represent?

```c
typedef struct {char *P,A[6]; int x;} U;
typedef struct {char P,B[10]; U *X;} W;
```

a) 'i'  
b) "Ali"  
c) NULL  
d) 't'  
e) 0  
f) 'Veli'

10. Which of the answers correspond to the operation performed by `fnc()`?

```c
double fnc(double x, int N){
  double y=1; long r=1,i;
  for(i=1;i<N;i++) { r*=i; y+=pow(x,i)/r;  }
  return y; }
```

a) `1+\sum_{i=0}^{N/2} x^2`  
b) `\log_x(x)`  
c) `x^N`  
d) `1+\sum_{i=1}^{N} x^i/i`  
e) `\sum_{i=0}^{N} x^i/i^2`  
f) `\sum_{i=0}^{N-1} x^i/i`

11. How many of the following conversions are correct?

<table>
<thead>
<tr>
<th>Conversion</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>101001₂</td>
<td>29₁₆</td>
</tr>
<tr>
<td>29₁₆</td>
<td>10110₂</td>
</tr>
<tr>
<td>10110₂</td>
<td>200420₁₀</td>
</tr>
<tr>
<td>45₁₀</td>
<td>47₁₆</td>
</tr>
<tr>
<td>47₁₆</td>
<td>100111₁₆</td>
</tr>
</tbody>
</table>

a) 5  
b) 2  
c) 4  
d) 1  
e) 3  
f) 0