**Jaypee University of Engineering and Technology**

**B. Tech. (CSE) - II Semester**

**Object Oriented Programming (18B11CI211)**

**Tutorial – 2(Review of C)**

1. Mention problems with Structured Programming and how OOP resolve them?
2. Write Object Oriented Programming Concepts with examples.
3. Describe the dynamic memory allocation and also explain the memory allocation functions.
4. Find the outcome-

i.

# include <stdio.h>

int main ()

{

int k;

int a[ ]={1, 2, 3};

int \*b[3];

int \*\*c[3];

int \*\*\*d[3];

int \*\*\*\*e[3];

int \*\*\*\*\*f[3];

for(k=0; k<3; k++)

{

b[k] = a+k;

c[k] = b+k;

d[k] = c+k;

e[k] = d+k;

f[k] = e+k;

}

for (k=0; k<3; k++)

{ printf(“%3d”, \*b[k]);

printf(“%3d”, \*\*c[k]);

printf(“%3d”, \*\*\*d[k]);

}

return 0;

}

ii.

# include <stdio.h>

int main()

{

int a = 2, \*p, \*\*q;

p=&a;

q=&p;

printf(“%d%d%d”, a, \*p, \*\*q);

return 0;

}

iii.

# include <stdio.h>

void fun(int \*ptr)

{

\*ptr = 30;

}

int main()

{

int y = 20;

fun(&y);

printf("%d", y);

return 0;

}

1. Find the errors-

|  |  |
| --- | --- |
| int main()  {  int t[ ]= {1, 2, 3, 4, 5};  int \*p, \*q, \*r; p=t; q=p[1]; r=p[2];  printf(“%d%d%d”, \*p, \*q, \*r);  return 0;  } | int main()  {  char \*c;  float x=10;  c=&x;  printf(“%d”, \*c);  return 0;  } |

|  |  |
| --- | --- |
| 6. find the outcome  #include <stdio.h>  int main()  {      int \*ptr;      int x;      ptr = &x;      \*ptr = 0;      printf(" x = %d\n", x);      printf(" \*ptr = %d\n", \*ptr);  \*ptr += 5;      printf(" x  = %d\n", x);      printf(" \*ptr = %d\n", \*ptr);      (\*ptr)++;      printf(" x = %d\n", x);      printf(" \*ptr = %d\n", \*ptr);      return 0;  } | 7. Consider a compiler where int takes 4 bytes, char takes 1 byte and pointer takes 4 bytes  #include <stdio.h>    int main()  {     int arri[] = {1, 2 ,3};     int \*ptri = arri;     char arrc[] = {1, 2 ,3};     char \*ptrc = arrc;    printf("sizeof arri[] = %d ", sizeof(arri));     printf("sizeof ptri = %d ", sizeof(ptri));     printf("sizeof arrc[] = %d ", sizeof(arrc));     printf("sizeof ptrc = %d ", sizeof(ptrc));    return 0;  } |

|  |  |
| --- | --- |
| What are the two ways to change the ranking variable to 45?  struct video {  char name[50];  int ranking;  };  int main() {  struct video cats = {"CatVid", 53};  struct video \*ptr;  ptr = &cats;  return 0;  } | 9. Assume that float takes 4 bytes, predict the output of following program.  #include <stdio.h>  int main()  {    float arr[5] = {12.5, 10.0, 13.5, 90.5, 0.5};    float \*ptr1 = &arr[0];    float \*ptr2 = ptr1 + 3;    printf("%f ", \*ptr2);    printf("%d", ptr2 - ptr1);    return 0;  } |